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General Scientific

A SCIENTIFIC SUBSTITUTE FOR THE DEATH PENALTY.*

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New York.

It is not intended within the limits of this paper to discuss the right of organized society to take human life. Organized society does take human life and it is generally considered as having that right, either for its own protection or by way of punishment for certain crimes.

"Whoso sheddeth man's blood, by man shall his blood be shed: for in the image of God made he man," was written four thousand years ago at a time when the waters which covered the earth had assuaged, and at divine command Noah had gone forth from the ark and every living thing with him to replenish the earth, and since this divine sanction of the law of life was promulgated, the rule of a life for a life has been observed to a greater or less extent throughout the world.

In early times the individual exercised the right to require for the life of his kinsman the life of his neighbor who slew that kinsman, and as men gathered together in families and tribes the family or tribe avenged the death of one of its members killed by a neighboring family or tribe. Later on money or property was frequently accepted in lieu of the life demanded, and finally organized society as a collective body asserted the exclusive right to execute retribution upon neighboring nations by war and punish its own citizens for crimes committed by them, or by others within its territorial jurisdiction, on the theory that the crime was an injury to the sovereign power which represented the entire community.

Thus prosecutions for offenses forbidden by federal statutes are brought in the name of the United States and proceedings in the State of New York to punish a criminal act under its laws are instituted by and in the name of the people of the State of New York. In Pennsylvania, the constitution provides that all "prosecutions shall be carried on in the name and by the authority of the commonwealth of Pennsylvania, and conclude *against the peace and dignity of the same.*"

So also organized society asserts the exclusive right as a state or nation to define the acts which shall constitute crimes if committed within its jurisdiction and to prescribe what penalty shall be inflicted for the punishment of those crimes.

The theory of modern criminal statutes is that they shall be corrective and their sanction is intended to act as a deterrent rather than as a punishment. The idea theoretically is that the consequences which the law says shall follow any prohibited act shall be calculated to prevent the commission of the act, and in the case of minor offenses if the act be committed, shall tend to reform the evil doer and show him the iniquity of his ways. Wilful murder, however, has always been in a class by itself and regarded as such a serious offense that the life of the murderer or his "legal death" by life imprisonment has been required by society in expiation of the crime, and as an example best calculated to deter others from the wilful taking of human life.

Under present conditions when society forfeits the life of a criminal, he is put to death usually by hanging or electrocution, and much of great value has been learned from electrocutions as to the effect of electric currents of high voltage upon the human system, but there is an almost limitless field of research as to the effect of various drugs upon the human body and as to the possibility of so controlling its functions that operations now considered impossible of performance may become a matter of every-day occurrence. Great strides have been and are being made in surgery. It is reported that the heart of an animal has been stopped for two and a half minutes without any trouble following, but as yet there has been no opportunity to test the method on man.

In the medical field new drugs are being discovered and new serums prepared, the effects of which upon the human system are yet to be determined. Much might also be learned as to the effect of many drugs now in use, on the blood of human beings, and as to the various processes of digestion, assimilation and elimination. It remains to be determined whether or not the blood can be diverted from the veins, and, driven by a small electric pump, forced through a filter bed inhabited by minute species inimical to disease germs in the blood, or whether some artificial means cannot be devised for the mechanical increase of the cocites in the blood. With a

* Read at the Indiana annual meeting of the American Association of Medical Jurisprudence, New York.

properly constructed machine, various poisons could be introduced directly into the blood and their effects noted while the blood itself is passing through glass or other transparent tubes as living blood, the small portion so treated being switched out of the artificial circulatory system and not returned to the body. An appropriate moving picture camera properly adjusted would record the various changes in the composition of the blood. Such a camera would also record the changes caused by drugs administered internally. Machines now in use would register the action of the heart under the influence of various stimulants and narcotics. The effect of the *x*-ray, the *n*-ray, the ultra violet ray and all the other rays yet to be discovered, upon human tissues and human nerves could be studied, the action and reaction of human nerves under stimulants and sedatives could be determined, and the field of human knowledge as to man and his body immeasurably increased, if the subject for these investigations could be obtained.

How much more scientific, therefore, instead of blotting out a life that is forfeit to the State, to utilize that life in the interest of science and for the purpose of assisting man in his fight against disease and for the relief of human suffering.

Startling, you will say—perhaps cruel. Yes, but is it not cruel to put a man on the gallows or in the electric chair and take his life to no purpose other than to deter others from the commission of the crime of which he has been convicted, and in States where there is no capital punishment is it not cruel to deprive a man of his liberty so long as he shall live, and decree him to be "civilly dead"? When we speak of punishment, we must differentiate between cruelty which is wanton and the infliction of suffering for a justifiable end. Under the plan now suggested, there need not be, nor should anything be allowed to be done calculated to inflict torture or any real suffering. Men have lived for years with a fistula, without experiencing any serious inconvenience, but these men being physically and legally alive could not be compelled to submit themselves to observation.

To compel a man to lie in practically the same position for several hours need not cause any suffering. Drugs and serums which have been perfected as far as possible in experiments on animals so that they are believed to be harmless to man, can be tried on a human being without serious pain or inconvenience. Sufficient human blood can be taken to completely replace the blood of a rat or a rabbit without danger to the man, although the consequences to the rat or the rabbit might be disastrous, but if the human blood which completely replaced the blood in the small animal retained its characteristics, which are materially different from those of the animal's blood, much invaluable information could be gained through experiments on the animal. In fact, there is a limitless field for scientific investigation without cruelty to the individual, or suffering on his part, which would result in the greatest benefit to manknd, and to incarcerate a man for life for the purpose of scientific investigation, would probably be as great a punishment to the individual himself and as great a deterrent to others as the death penalty.

Of course, the investigations to be made would have to be in the hands of men of the highest standing. Each test should stand alone, and an application for permission to make it must be made in writing describing fully what is proposed to be done and a certificate for that particular test must be issued for each particular test which should be made in a room or place to which medical and scientific men, and others who are not influenced merely by morbid curiosity, should have access.

Vivisection, as ordinarily understood, certainly would not be permitted, but a commission should, after careful investigation, decide the proper limits within which tests could be allowed, always bearing in mind that nothing calculated to inflict torture or probably calculated to cause death should be permitted. This would adequately protect the prisoner from suffering and prevent public criticism on humanitarian grounds.

Undoubtedly some would object to the plan proposed on the ground that it would be cruel and inhuman. Many of those persons now object to all tests and experiments on animals. It is a fact, however, of which there is abundant proof, that tests on the lower animals have resulted in the greatest good to humanity. Smallpox has been practically stamped out. Diphtheria has lost its terrors. Typhoid fever, which killed more soldiers in the Spanish war than bullets, is now under control. Yellow fever has been conquered at the expense also of human life voluntarily offered as a willing sacrifice, in the search for the cause and the cure of this dread disease. These tremendous achievements have been accomplished as the result of experiments, which at the time they were made might have been and probably were characterized by some people as cruel, inhuman and barbarous. But cruelty does not consist in the infliction of pain, but in the "disposition to give unnecessary pain to others," and the question whether or not pain is necessary depends upon the object in view and the merit of that object, and that in turn depends upon the state of mind of the community. It cannot be laid down that the infliction of any pain is cruelty. To drive a hypodermic needle into the arm or body of a child, without reason, would be cruelty, but if the pain be inflicted to save the life of the child by checking the ravages of diphtheria, or anticipating an indicated attack of that disease, the act would be the most humane possible. To cut off an arm or a leg wantonly would be barbarous, but if the amputation be indicated as the only means of saving life, to refrain would not only be a cruelty but also would subject a medical man to charges of incompetence or malpractice. There is no operation of ancient or modern times, and no drug or other substance has ever been discovered for the alleviation of human suffering, which has not been tested for a first time on some human being, possibly without his knowledge or consent, and without the knowledge or consent of his relatives or friends, and the grave hides many tragedies due to the lack of exact knowledge on the part of those who sought groping in the dark for the light that would bring health to the sick and the maimed. But there are other graves and they hide tragedies decreed by the state. Had another course been taken, there would have been but one grave, a milestone in human progress, or perchance no grave at all, until in course of nature the condemned man having by his aid in the humane search for the yet unknown, fully expiated his crime against his fellows, lays himself down to his last long sleep in the consciousness that after all he has not lived in vain, and that the world is on the whole better off because he has lived. How much better than an ignominious death upon the gallows! How much greater the conservation of human life!

But if the infliction of necessary pain upon an individual for his own good is justifiable, why should not the least necessary amount of pain be inflicted vicariously for a justifiable end? Nations send the flower of their manhood to war with the absolute knowledge that many will be killed, many more frightfully mutilated and maimed, and many, many more be claimed by disease, and when the grim destroyer has done his deadly work, we meet to dedicate a portion of a great battle

field as the final resting place of those who died that the nation might live, and each one of those grassy mounds and every one of the white tablets which strew the hillside tells its story of an innocent life given for the general good. The battles of peace are far more important to humanity than armed conflicts, and why should not those who have sinned so grievously against their fellow men that society has cast them out, be conscripted and put on the firing line?

It remains only to consider whether or not such a plan would infringe the constitutional rights of the prisoner under the Federal and State constitutions. If a law were enacted either condemning the convicted prisoner to imprisonment for test purposes or to death with the option of such imprisonment, and the trial be had according to the course and practice existing in all similar cases, he could not be heard to complain that he had not had the benefit of "due process of law." That clause of the Constitution does not relate to the punishment for crime, but to the law of the land as to the various steps to be taken and the procedure to be observed in ascertaining if the accused should be punished in the manner all others convicted of similar crimes are punished.

Even if a prisoner be subjected to various experiments, it could not be said that he was "twice put in jeopardy" for the same offense. This provision refers to the trial of the accused and not to the punishment. There have been several cases where a scaffold rope has broken. The prisoner did not because of that accident become entitled to the benefit of the constitutional provision last quoted, and as soon as a new rope could be procured he was duly and legally executed. But a third constitutional provision which forbids the infliction of cruel and unusual punishments, presents a question somewhat more difficult of solution.

This clause is borrowed from the Bill of Rights passed in the first year of the reign of William and Mary, 1689, being Chapter 2 of the Statutes of that year. It read: "Excessive bail ought not to be required nor excessive fines imposed, nor cruel and unusual punishment inflicted." When this statute was made part of our Constitutions the word "shall" was substituted for the word "ought."

While in the Bill of Rights the provision referred to was probably only a declaration of the principles which the English people wished to have observed in the conduct of the government of the foreign prince they were about to place upon the throne made vacant by revolution, it is probable that the character of the punishments in vogue when our constitution was adopted by the colonies induced the framers of the Constitution to change the word "ought" to the word "shall." The Bill of Rights did not, however, serve to mitigate the severity of the punishments in vogue when it was enacted, but those punishments continued to be inflicted long after the enactment of the Bill of Rights. These punishments are graphically described in the case of Done vs. The People, 5 Parker, page 382, where the court says:

"The punishments in England, when the offender was to suffer death were inflicted in various ways. Under the direction of military courts he was shot. When condemned by ecclesiastical tribunals, he was not unfrequently burned at the stake, as if his priestly judges designed that the heretic, on going out of this world, should have a foretaste of the punishments to which they also consigned him in the next. For treason against the state the great sword of justice was to fall. The condemned man was sentenced to be hung, taken down while still alive, beheaded, disemboweled and quartered; with few exceptions, however, the axe of the executioner only was used, and the criminal was simply beheaded. If, however, in case of high crimes, especially treason, the prisoner stood mute and refused to plead, he might be sentenced to be pressed to death, a punishment inflicted by placing the prisoner on his back, naked, in a cold dungeon, with his arms and legs extended by cords to the four corners, and with iron or stone laid on his breast, and then left till death from cold, or pressure, or exhaustion, came to his relief. Lastly, for the crime of murder and numerous other felonies, the criminal was sentenced to be hung by the neck till he was dead." These extreme punishments had gradually fallen into disuse, for the court continues: "In New York we had no conviction, so far as I am informed, of any person charged with heresy. In 1705, during the administration of Lord Cornbury, the Rev. Francis McKemie was indicted and tried in the city of New York for preaching without the Queen's (Anne) license. The trial was not in an ecclesiastical court, but in the Supreme Court. McKemie was a Scotch Presbyterian, and he defended himself, maintaining with marked ability that preaching the gospel was no crime at the common law; and the jury, notwithstanding the marked partiality of the court against him, rendered a verdict for acquittal. A few years prior to that, Colonel Nicholas Bayard and Alderman John Hutchings were tried, also in the city of New York, on indictments for high treason. Both were convicted and sentenced to be hung, emboweled and quartered. They were among the most eminent citizens in the province of New York, and their trial and conviction were, as they had often been in England, the fruit of party rancor and judicial corruption. The sentences were afterward reversed by directions sent out from the English government. With the exception of the trials of Leisler and Milbourne, both of whom were convicted and executed by hanging, these, I believe, were the only trials for treason in New York while a province. The extreme punishment of emboweling and quartering was never inflicted. Of burning at the stake we have several melancholy instances—none, however, for heresy. This punishment was inflicted, so far as I have been able to ascertain, upon oppressed and despised races. Thus, in 1707, Lord Cornbury, governor in writing to the Board of Trade in London, says that 'a most barbarous murder has been committed upon the family of one Hallet by an Indian man slave and a negro woman,' and he adds, 'I immediately issued a special commission for the trial of them, which was done, and the man sentenced to be hanged and the woman burnt, and they have been executed.'

"In 1712 Robert Hunter, then being governor of New York, in writing to the Board of Trade, among other things, speaks of a slave insurrection and the killing of several whites by the negroes. He says the slaves were arrested and 'forthwith brought to their trial before the justices of this place, who are authorized by act of assembly to hold a court in such cases. In that court were twenty-seven condemned, whereof twenty-one were executed; one being a woman with child, her execution by that means suspended; some were burnt, others hanged, one broke on the wheel, and one hung alive in chains in the town; so there has been the most exemplary punishment inflicted that could possibly be thought of.' He might well have added, as he did, 'which only this act of assembly could justify.' (See Vol. 5, Colonial His., pp. 39, 341.) In 1741-42 there occurred what has become historically famous in this State as the negro plot, wherein love of freedom in the negro, introduction of popery, incendiarism and plunder are combined. Thirteen blacks were burnt at the stake, and one white man and one negro were gibbeted. (See Pamphlet containing trial, and Smith's History of New York, Vol. 2, pp. 70-72.) About 1772, or 1773, a negro man was burned at the stake at Johnstown, then the county seat of Tryon County, for a rape committed on a white woman. There may be other instances, but those mentioned are enough to require in the (American) bill of rights that neither 'cruel nor unusual punishments shall be inflicted.'"

Historically, therefore, it appears that punishments which at the present day would be regarded as inhuman and barbarous were inflicted long after the English Bill of Rights was enacted. From the preamble to that statute which recites that excessive bail has been required, excessive fines imposed and "illegal and cruel punishments inflicted," it is plain that the statute was directed against the illegal and arbitrary acts of James II and his puppet judges, and as a declaration that under the joint sovereignty of William and Mary, to whom the crown had just been offered, no punishments except those prescribed by parliament or such as were then in vogue should be permitted.

The Constitution of the United States as originally drafted and ratified by the States did not contain the provision forbidding cruel and unusual punishments, but that provision was added as one of the amendments subsequently adopted, which have been characterized as

'our national Bill of Rights, and apply to each department and to all classes of officials." The provisions of those amendments have been largely copied in the constitutions of the various States, but different States still have different punishments for the crime of murder. In some the convicted man is electrocuted, in others hanged and in others imprisoned for life, and it is fairly to be inferred that in States where life imprisonment is the extreme penalty it is regarded as cruelty to put a man to death by hanging or electricity, and that in States where hanging is decreed, and the malfactor in many cases slowly strangles to death, electrocution is not considered more humane. As in any case the malfactor is not deprived of any constitutional right, it would seem to follow that whether or not a punishment is cruel and unusual, and therefore obnoxious to this provision of the Constitution, is largely a matter of the opinion held by the citizens of the State which inflicts the punishment.

Comparatively few decisions have been rendered under this clause of the Constitution forbidding cruel and unusual punishment, although it has been considered to some extent by the text writers. Thus Cooley in the Principles of Constitutional Law, 3rd ed., p. 324, states as follows:

"What punishment is suited to a specified offense must in general be determined by the legislature, and the case must be very extraordinary in which its judgment could be brought in question. A punishment may be unlawful either (1) because it is in excess of, or different from, that prescribed by law; or (2) because it is not warranted by the judgment of any competent court; and possibly (3) because, though apparently warranted by law, it is so manifestly out of all proportion to the offense as to shock the moral sense with its barbarity, or because it is a punishment long disused for its cruelty until it has become 'unusual.' Nothing more definite can on this point be affirmed."

The decisions of the courts have usually proceeded on the theory that the Constitution forbids the barbarous punishments in vogue prior to the enactment of the Constitution, some of which have been referred to above, but that the legislature, being a representative body and supposed to reflect the sober sentiments of the people, has in its discretion the power to prescribe and change the mode of punishment for crime, but not to inflict manifestly cruel and unusual punishments, as burning at the stake, crucifixion, breaking on the wheel or the like. This, in effect, was held in People ex rel Kemmler v. Durston, 119 N. Y., at page 578, and affirmed by the United States Supreme Court in 136 U. S., page 436 (where the contention was made that electrocution was a cruel and unusual punishment), for the court says:

"If it cannot be made to appear that a law is in conflict with the Constitution by argument deduced from the language of the law itself or from matter of which a court can take judicial notice, then the act must stand. The testimony of expert or other witnesses is not admissible to show that in carrying out a law enacted by the legislature, some provision of the Constitution may possibly be violated."

This principle, of course, only applies to acts of the legislature and not to ordinances or other regulations of subordinate jurisdictions. It was so held in the case of Ho Ah Kow vs. Nunan, 18 Am. Law Reg. (N. S.) 676, where an ordinance of San Francisco provided that every male person imprisoned in the county jail should immediately have his hair cut or clipped to an uniform length of one inch from the scalp, and under this ordinance the sheriff cut off the plaintiff's queue, and the court held that as the ordinance was expressly directed towards the Chinese, and that a treatment to which disgrace is attached and which is not adopted as a means of security against the escape of the prisoner (or for any sanitary reason), but merely to aggravate the severity of his confinement, can only be regarded as a punishment additional to that fixed by the sentence. "If adopted in consequence of the sentence it is punishment in addition to that imposed by the court. If adopted without regard to the sentence, it was wanton cruelty," and the court declared the ordinance unconstitutional, as repugnant to the constitutional provision forbidding cruel and unusual punishment, but intimated that the ordinance would have been sustained if its object had been a proper one.

It is to be observed that in the case last referred to the court permitted testimony to be introduced showing that it was a disgrace and cruelty to a Chinaman to have his queue cut off under an ordinance without adequate sanitary reason or for the purpose of identification as practiced by the State in the penitentiaries, but this ordinance was not a law passed by the legislature. If it had been, the court would doubtless have been governed by the principles stated in the Kemmler case referred to above, provided the reason for the statute was apparently justifiable.

On the whole, it seems safe to conclude that any law changing the death penalty to imprisonment for life for observation purposes which the legislature of any State representing the public sentiment of that State might pass, would justify itself and be held to be constitutional. There would therefore seem to be no reason on humanitarian or other grounds why the criminal, who by reason of his own acts has forfeited his life to the State, should not be used humanely and without torture for scientific study and investigation for the purpose of prolonging the lives and reducing the sufferings of all mankind, and hastening the fulfillment of the prophecy now made by scientists that the time will come when no man need die except by accident or design.

New Charges Against the Insects.

"The striking results already demonstrated in respect to the carrier activity of a few omnipresent animal forms, notably mosquitoes, fleas, bedbugs and house flies, inevitably raises the question as to the possible epidemiologic significance of other species of insects which may be less abundant but are, to quote Professor Wheeler, who has recently discussed this subject, of much more generalized or more versatile behavior, and whose contact with man may be merely occasional or confined to restricted localities. In this group he includes cockroaches, ants and bees. Their rôle is as yet purely conjectural; but it is of no little interest," the *Journal A. M. A.* believes, "to consider the possibilities as they present themselves to one trained to observe the versatile habits of insects and thus to recognize more readily the opportunities for infection to which the sanitarian must give heed.

"That insect which will devour any sufficiently soft substance, from human foods and the feces of other cockroaches to glue, grease and water colors, and live by preference in the cracks of the floors and walls of houses, bakeries, restaurants, sugar refineries and tanneries, where their bodies come in contact with the filth and refuse that necessarily accumulate in such places, should carry a host of germs about on and in their bodies and be able to infect our foods, is certainly not surprising. Thus reads the warning which Wheeler has expressed in respect to the omnivorous cockroach. As a matter of fact, Longfellow has already reported that it is easy to cultivate from the roach's feces with undiminished virulence such organisms as the diphtheria bacillus, the pneumococcus and the meningococcus. He asserts that roaches probably also feed on tuberculous sputum and disseminate the bacilli in the feces as readily as the house fly."

THE CASE AGAINST NON-MEDICAL ANESTHETISTS.

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My article entitled, "Non-Medical Anesthetists and the Law," which appeared in a former issue of the MEDICL TIMES brought me so many letters, chiefly from physicians, but a few from lawyers, that an additional article seems necessary to make certain points clear.

Whether the administration of a general anesthetic by a non-medical person by order of a registered physician and in his presence constitutes the practice of medicine or not depends upon the definition of what constitutes the practice of medicine in the statute of the particular State concerned, unless another statute makes provision for non-medical anesthetists. I have studied the statutes of this State only, but, as mentioned in my last article, the attorney-general of Ohio has given an opinion that the employment of non-medical anesthetists in Ohio is illegal. Since that opinion was written, however, the administration of general anesthetics by dentists for non-dental operations has been legalized in Ohio by statute, a procedure which is against the public interest because to administer a general anesthetic without unnecessary danger to the patient involves a complete medical education including a thorough knowledge of not only physiology, but also pathology. A few dentists may have this knowledge, although the law does not require it, but the Ohio statute now permits *any* dentist to give *any* general anesthetic for *any* operation. The attorney-general of Ohio evidently cares little for enforcing his ruling, otherwise he would have used pressure to induce the State Medical Board to compel the superintendent of the Lakeside Hospital in Cleveland to stop employing nurses to give nitrous-oxide-oxygen, and also to cease "training" nurses to become "specialists" in the administration of this anesthetic which is, for major surgical operations, highly dangerous. The alleged "training" occupies from four to six months! These nurses are taught to give nitrous-oxide-oxygen only, although anybody who knows anything about anesthesia is well aware that as cases occur in which change of anesthetic during an operation is sometimes necessary to save the patient's life, a so-called "trained" anesthetist who can give only one anesthetic is almost as great a menace to the public as a "trained" surgeon whose knowledge of anatomy was limited to the abdomen and its diseases would be. Published statements emanating from Cleveland which declare that many thousand surgical operations have been performed with N_2O+O without a death directly due to the anesthetic should not be taken too seriously because deaths which certain surgeons regard as not directly attributable to the anesthetic might be regarded by some professional anesthetists as a direct result of using N_2O+O as a routine anesthetic. Every professional medical anesthetist chooses for each operation the particular anesthetic which is most suitable for each case. To argue that a dentist or a nurse can do this is to argue that a dentist or a nurse can, among other matters, ascertain the cardiac condition and the renal condition of the patient.

Except in emergency cases professional medical anesthetists suitably treat their patients prior to operation. If Mr. Ansley Wilcox, honorary counsel of Buffalo General Hospital, is right in his opinion that a nurse can lawfully administer a general anesthetic to a patient in the absence of a registered physician, which I, of course, deny, the day is probably in sight when a surgeon at the hospital named will permit his nitrous-oxide-oxygen "specialist," to anesthetize "private" patients and have them ready to be operated upon when he arrives at the hospital. However, the rules of the hospital referred to prohibit the employment of non-medical anesthetists in the case of "hospital" patients. Notwithstanding opinions to the contrary, and in spite of the absence of any specific contract between a "private" patient and a hospital, the relatives of a "private" patient who died from anesthesia could properly bring suit against any hospital which permitted a nurse to give general anesthetics, unless the patient had been informed prior to the operation that he would be anesthetized by one who was not a registered physician, and his consent obtained. The out-of-date doctrine that however high a price a patient pays for a room in a hospital, that patient cannot sue the trustees on account of a hospital not being a trading institution existing for money-making purposes was disproved by the prolonged proceedings in the case of Helen Ward versus St. Vincent's Hospital, New York. The trustees of a hospital are required to see that unlawful acts do not occur on their premises, and the practice of medicine by medical students and nurses is an unlawful act. In those cases in which the patient or his relatives make arrangements for care at a hospital in a private room with the representative of the hospital, the surgeon not being used as an intermediary in the negotiations, the defence of no contract on the part of the hospital would be mere pettyfogging. Nevertheless, there may be devices by which a hospital might escape paying damages for its negligence if a "private" patient should die as the result of a general anesthetic administered by a nurse, and for that reason, apart entirely from the necessity of protecting the public before unnecessary deaths occur, the law of the State of New York should be made perfectly plain. Writing on August 31, 1914, Mr. Almuth C. Vandiver, counsel of N. Y. County Medical Society, said: "In my opinion this important matter (administration of general anesthetics) should be presented to the legislature at the coming session and speedy action thereon strenuously urged in order that there may be no further doubt as to the identity of the persons who may legally, properly and safely administer to the public."

Mr. James Taylor Lewis, counsel of N. Y. State Medical Society in Journal of that Society, December, 1911:

"I believe that the law does not authorize her (a nurse) to take part in so important, indeed so vital, a procedure incident to surgical work" (as the administration of general anesthetics).

Mr. Frank B. Gilbert, Chief of Law Division of Univ. of State of N. Y. (letter dated February 10, 1914):

"If acting under the advice and direction of a physician and in his presence as an aid to him in the performance of an operation a trained nurse administers an anesthetic, she will be deemed to have done so under the personal supervision of the physician and the act will be his."

The opinion given by Mr. Wilson M. Powell, counsel of New York Hospital, New York, coincides with that of Mr. Lewis, but that of Mr. Wesley C. Dudley, district attorney of Erie County, is very different, and agrees with Mr. Gilbert's opinion. On May 13, 1912, Mr. Dudley wrote: "It would seem to me that a nurse who administers an anesthetic in the presence of and under the direction of a duly licensed and practicing physician or surgeon, would hardly come within the definition of practicing medicine."

My impression is that neither Mr. Gilbert nor Mr. Dudley can ever have witnessed the administration of a general anesthetic for a surgical operation, although they may both have been operated upon. The average

surgeon does not—and cannot—"coach" his anesthetist; he takes no more notice of that anesthetist than if he (or she) were not in the room. The surgeon's "main object for the moment is to secure cadaveric relaxation of the subject" (Dr. Wm. C. Woolsey). A surgeon who can instruct an anesthetist and operate as he should operate is a genius. That he exists is possible, but very improbable.

My own way of settling the legal *status* of non-medical anesthetists would be to prosecute one of them in the city of Buffalo, but this procedure is impossible at present as the district attorney of Erie County, as mentioned above, holds that they do not practice medicine. Both this learned gentleman's opinion and that of Mr. Gilbert involve one of two hypotheses, viz: either that the surgeon instructs the anesthetist as to the amount of anesthetic which must be given at any particular moment, and later increased or decreased, or that a surgeon can lawfully delegate to a non-medical person his legal right to practice medicine, because *prescribing* constitutes practicing medicine according to the law of the State of New York. Both hypotheses are fallacies. During the administration of a general anesthetic conditions sometimes arise which necessitate the use of a drug. When a "specially trained" nurse-anesthetist chooses the drug and decides upon the dose, she practices medicine in violation of the law of the State of New York. If the opinions of Mr. Gilbert and Mr. Dudley are good law, and a registered nurse can lawfully administer a general anesthetic in the presence of and by order of a registered physician, she can equally lawfully perform a surgical operation in similar circumstances. She is forbidden by statute to *diagnose, treat* and *prescribe* every bit as much as she is to *operate*. If a "specially trained" nurse, registered in New York State, can lawfully administer a general anesthetic, then *any* registered nurse can equally lawfully administer *any* general anesthetic, although she may not have had any instruction in the art of giving anesthetics, and although she may not know what N_2O+O means, and although she may never even have seen the complicated apparatus by which it is given. If the legislature in creating the *status* of registered nurse had intended to confer upon trained nurses the legal right to administer general anesthetics, it would have required them to receive instruction in the art of administering anesthetics. This is not the case. They are, however, specifically forbidden to practice medicine, or "to undertake the *treatment* or cure of disease." What possible excuse can be given for relegating any act so dangerous as the administration of a general anesthetic to a nurse when no reliable physician would permit a nurse to write a prescription for diarrhoea, or even for a "cold"? The usual excuses are that the expense to the patient is less, that the nurse's services can always be secured at short notice, and that her attention is given to the anesthesia exclusively, while some physicians watch the operation although giving the anesthetic. The answers are that to "private" patients the difference in cost is too small to be important. Moreover, many druggists will often unlawfully prescribe for disorders, charging merely for the medicine, at a price considerably below a physician's fee for an office call. Again, the administration of anesthetics is a specialty in medicine which in large cities is in the hands of trained specialists who are not interested in surgical work. Even general practitioners who give many anesthetics in the smaller cities and in the country do not watch the operation if they know anything worthy of the name of the art of anesthesia. I suspect very strongly, however, that before I drew attention to this important subject some surgeons were paying nurses salaries and were charging their patients sufficient for each anesthesia to make a handsome profit out of this procedure. I admit, nevertheless, that I cannot prove this suspicion as the evidence is insufficient.

Why do not those nurses who wish to make a specialty of giving anesthetics go to a medical school and obtain a medical education? The usual reason is that although they pose as experts in a medical specialty of a highly technical character, they are not sufficiently equipped mentally to absorb elementary medical knowledge; and the same reason explains why a few dentists in New York who try to practice as medical specialists in the administration of general anesthetics, but who are not physicians, do not secure the legal right to put M. D. after their names. Unless the legislature interferes very soon, the day is not far distant when some nurses will advertise in small places that they are specialists in giving anesthetics, and that they are willing to administer anesthetics for any physician. Already some of these ladies are claiming that to administer an anesthetic is a part of the practice of *nursing!* Is it not about time that in the public interest the National Society of Anesthetists as well as the State Society should make a determined effort to obtain such legislation as will protect men and women who know nothing of the dangers of anesthesia from the dire effects of being anesthetised by an amateur, whether dentist or nurse? As long ago as May 8, 1914, Mr. Almuth C. Vandiver, in a paper read to the New York State Society, urged that the legal status of nurses administering anesthetics should be fixed by the legislature at the instance of that Society. No assistance can be expected from the Regents or from any department of the State at Albany. Writing on March 4, 1914, Mr. Frank B. Gilbert, Chief of the Law Department of the Regents, said: "The Regents of the University have assumed the attitude of not proposing legislation by way of amendments to the medical practice act without such legislation being proposed and supported by the medical profession as a body." I cannot agree with this statement. The bills introduced in 1913 and 1914 by the State Education Department, which proposed to take away the license to practice medicine of any physician who was guilty of unprofessional conduct, although exactly what constitutes unprofessional conduct was not made perfectly clear, were by no means "supported by the medical profession as a body." Both bills were very properly defeated; that of 1913 was undoubtedly unconstitutional. Mr. Gilbert continues, "We are able usually to ascertain the sentiments of the profession through recognized organizations. I am quite sure that the Regents have had no request from any organized body of physicians that a bill be prepared and introduced at the initiative of the Regents relative to the administration of anesthetics as a part of the practice of medicine. * * * The only point is whether or not the Regents are required or warranted in proposing legislation along the line indicated by you." The same attitude was assumed in March, 1914, by Dr. Downing, Assistant Commissioner of Education. Now, what does this attitude mean? It means simply that in the opinion of Mr. Gilbert and Dr. Downing medical laws in the State of New York exist, not for the protection of the public, but solely for the protection of the medical profession. If, then, physicians as a body wish to employ as anesthetists persons who are not required by law to receive education in the administration of general anesthetics, so much the worse for suffering humanity; the Regents must not interfere, because medical men as a whole do

not favor legislation on the subject! Is this doctrine consistent with government of the State for the benefit of the people? Certainly not, but, as a fact, the consensus of opinion among reputable and conscientious physicians is against non-medical anesthetists.

What the attitude of the New York State Medical Society is toward legislation making clear the fact that the administration of a general anesthetic in the presence of and by order of a physician constitutes the practice of medicine, and not the practice of nursing, I do not know specifically. Writing to me on April 17, 1914, Dr. Lewis K. Neff, of New York City, said: "I might venture the opinion that the Medical Society of the State of New York would scarcely look with favor upon any further amendments to Article VIII of the Public Health Law. There have been many various attempts to amend this article, and thus far I hope we have succeeded in preventing their success. However, should you consider it desirable, if you will send me your copy of the proposed legislation, I should be very glad to read it over." Dr. Neff is chairman of committee on legislation of New York State Medical Society. A copy of the proposed legislation was mailed to him on April 20, 1914. It makes no attempt to amend any statute or to add anything new to any statute. The sole object of the proposed statute is to clarify the existing law, and to make plain the obvious intention of the legislature. Since the date last named, I have not heard from Dr. Neff. I now draw attention to two excerpts from the *Dietetic and Hygienic Gazette* of New York, which, when taken together, are very illuminating:

D. & H. Gazette, January 1912, p. 50. Dr. Babcock, president of American Hospital Association:

"The lack of proper material for pupils in our training schools (for nurses) is so great that it has become necessary in most schools to accept for training material lacking a good English education and much of the fundamental training of life."

D. & H. Gazette, December, 1913, p. 573. Dr. Tinker, of Ithaca, N. Y.:

"All those here present who have been obliged to take a general anesthetic appreciate the importance of care in its administration. Skill in anesthesia is gained only by much experience and the anesthetist should be in constant practice. *The importance of the anesthetist's position has been estimated by several of our best-known surgeons as second only to that of the operating surgeon himself.* . . . I believe that there will be in the future many thousands of t r a i n e d nurses in the smaller cities who will devote themselves to the administration of anesthetics alone." (Italics above are not in original.)

Dr. Tinker is, I believe, a surgeon who makes a specialty of operations for goitre. If this is correct, he must have had some experience of trained physicians who make a specialty of anesthesia, and consequently he must know the immense difference between the trained anesthetist who is a physician and the anesthetist who is not. He referred to over 1,000 operations in the past four years "in our little operating room with a death-rate less than one in five hundred major operations during the past two years." How many of these deaths were due to the anesthetic he did not say, nor did he mention that if the surgeon is competent and his technique up to date, when death occurs as the result of the operation, the anesthetic or the anesthetist has usually been to some extent to blame. Dr. Tinker admits the paramount importance of the anesthetist's position, but believes that nurses can fill it satisfactorily, although he must realize that the mental equipment necessary for a thoroughly safe anesthetist is far above that possessed by the average nurse. Is that surprising when "most schools" three years ago were accepting for training "material lacking a good English education and much of the fundamental training of life"? In ordinary, uncomplicated cases the administration of a general anesthetic may appear to be a comparatively simple matter. After it, the patient may suffer from much nausea and some vomiting, but recovers, and no more is heard about the case. The whole course of events, however, may point to ignorance or inexperience on the part of the anesthetist which, in an exceptional case, would be liable to cause a fatal termination. Without fear of contradiction by any competent person, I assert that a large proportion of non-medical anesthetists believe that the only serious danger of death from anesthesia is due to insufficient oxygen, and that, speaking generally, they do not know what acapnia means. Yet death from acapnia is far from impossible.

Writing to me on January 16, 1914, Dr. John B. Murphy of Chicago, said: "I do not know what the law is in Illinois. I do know, however, that for the last sixteen or seventeen years my anesthesias have been given by a Sister. I believe she is the best anesthetist I have ever seen. She is not a medical graduate and knows nothing about medicine, except that she was a trained nurse. She knows all about the practical administration of anesthetics, however. In the entire period of time that she has been with me, we have not had an untoward condition, and I daresay she would now approximate about 20,000 anesthesias." Dr. Murphy may perhaps never have seen a medical specialist on anesthesia give an anesthetic, and he may be comparing his anesthetist with interns. He would not ask me to believe that the most experienced midwife in Chicago or New York is as expert as a physician who makes a specialty of obstetrics. Imagine any one comparing a midwife who has attended many confinements, with Cragin of New York or Blacker of London! Yet assuming that Dr. Murphy has seen Gatch, Gwathmey, Bennet or Woolsey give an anesthetic, he professes to believe that his non-medical anesthetist is their equal in skill in the administration of general anesthetics! But he says that she "knows nothing about medicine, except that she is a trained nurse." If that is so, she may be ignorant of the meaning of "cyanosis" and of "acapnia," as these terms are not connected with the practice of nursing. Dr. Murphy has not had "an untoward condition" in "the last sixteen or seventeen years," but he does not explain what those words mean.

Dr. Murphy says that he does not know what the law is in Illinois. If the practice of medicine in that state is still controlled by the statute which was in force in 1909, or if the definition of what constitutes the practice of medicine is identical with section seven of the statute then in force, in my opinion, the administration of a general anesthetic for any non-dental operation by any person other than a licensed physician, constitutes practicing medicine and is a violation of the law of Illinois.

Dr. George H. Simmons, editor of the *Journal A. M. A.*, writing to me on October 18, 1912, informed me that although "a *trained* anesthetist is required, a broad knowledge of medicine is not regarded as necessary." He omits to relate, however, by whom it is not so regarded. I venture to assert that more than ninety per cent. of the well educated physicians in the United States are of the opinion that a broad medical education is necessary for anesthetists for

the very good reason that the patient's life is in danger every moment that he is under the influence of a general anesthetic. When a man or woman is as near to death as he or she is when fully anesthetised, do not ordinary caution and ordinary common sense demand that a thoroughly trained physician ought to be in control of the patient and the anesthetic—and not a dentist, a nurse, or an inexperienced intern? Dr. Simmons tells me that "in any event," the operator is the one who is responsible if death occurs."

Dr. Simmons says: "The British Medical Association had a commission which worked for many years and made voluminous reports, but so far as I know there was nothing in any of the reports to warrant forbidding the giving of anesthetics by non-medical women." Being skeptical, I communicated with Dr. Dawson Williams, editor of the *British Medical Journal*. He kindly procured for me a statement from a great professional anesthetist, Sir Frederick Hewitt of St. George's Hospital, London. It is refreshing to read what the latter says:

"There is a general feeling amongst the surgeons of this country against entrusting the administration of general anesthetics to nurses, except, perhaps, in obstetric cases in which the medical attendant is single-handed and is therefore obliged whilst applying forceps, for example, to allow the nurse to continue the anesthetic under his supervision. So far as I am aware the practice of allowing nurses to administer anesthetics in general surgery is non-existent in England. There may possibly be a few instances in which dentists allow nurses, or other female assistants, to administer nitrous oxide for them; but the fact that the General Medical Council, the British Medical Association, the Royal College of Surgeons, the British Dental Association, the British Association for the Advancement of Science, and the Medico-Legal Society, have one and all endorsed the recent proposal to place the administration of every general anesthetic in the hands of a qualified medical or dental practitioner is sufficiently indicative of the views generally held by the profession in regard to anesthetics. There are now, indeed, few if any, hospitals at which the anesthetics for major operations are given by any but specially trained medical men or women. We have quite given up the practice of regarding the operator as responsible for the anesthetic, now that the latter is almost invariably administered by a qualified and properly trained person. At St. George's Hospital the requirements of the surgeons are such that there is an increasing demand for highly skilled anesthetists, and as it is my function as head of the Anesthetic Department at that Hospital to endeavor to meet such requirements by proper organization, I am in a position to state very definitely that any movement towards a lower level of efficiency would be regarded as dangerous and retrogressive."

The late Dr. A. J. Bristow, of Brooklyn, was much opposed to non-medical anesthetists, and no one will deny that he was a surgeon of considerable experience. In a letter dated Jan. 17, 1913, he said: "This rank impropriety (the employment of nurses as anesthetists) will go on until somebody dies on the table and the patient's friends find it out and bring suit for damages. The whole affair is improper and cannot be defended by any such analogy as Dr. B. suggests. It is one thing when you are in the back woods, and can get no other assistance, to ask a layman to hold an ether cone—quite a different proposition to encourage the improper use of unauthorized persons in a public hospital."

At the next (1916) session of the legislature of this state (New York) an attempt will be made to obtain legislation which will provide that the administration of general anesthetics is a part of the practice of medicine. The proposed addition to the law, of which a copy is appended, will not interfere with the lawful rights of dentists, with the employment of any reliable person in an emergency, or with the instruction of medical or dental students.

A Bill to Regulate the Administration of General Anesthetics by Persons other than Licensed and Registered Physicians.

The administration by any process of any substance, liquid or gas, commonly called a general anesthetic, for the purpose of producing unconsciousness, shall constitute the practice of medicine and surgery, even if undertaken in the presence of and by order of a licensed and registered physician, surgeon or dentist, with the following exceptions:

1. A licensed and registered dentist may administer any general anesthetic for any operation which a dentist can lawfully perform, but not for any operation which a dentist cannot lawfully perform, even if a licensed physician is present and directs such dentist to administer such general anesthetic, except as is hereinafter provided.

2. In any case of sudden or severe illness or sickness in which the licensed physician or surgeon in attendance upon the patient conscientiously believes that the delay necessary to obtain the services of another licensed physician to administer a general anesthetic will endanger the life or health of the patient, that attending physician or surgeon may employ any reliable person to administer such general anesthetic in his presence and directly under his instructions; but not in his absence. The employment in this manner of any person other than a licensed and registered physician to administer any general anesthetic must be strictly limited to emergencies in which the services as anesthetist of a licensed and registered physician cannot be quickly and easily obtained, and must not be a regular or habitual practice.

Nothing contained in this Statute shall be construed to prohibit necessary practical instruction in the administration of general anesthetics being given to registered medical students by licensed physicians, or to registered dental students by licensed dentists or licensed physicians; always provided that while giving such instruction the instructor devotes his entire attention to teaching and neither operates nor does any medical, surgical or dental work unconnected with the administration of a general anesthetic.

Since the above was written, I have seen an article by Dr. Woods Hutchinson in *Good Housekeeping* for last June, entitled "The Community Hospital." Dr. Hutchinson says, on p. 90: "One of the greatest obstacles, however, to the proper administration of anesthetics in adequate amounts in labor * * * is that it is a delicate and somewhat risky performance, requiring either the services of a nurse who has had special training and skill in anesthetization or else the almost continuous presence of the doctor himself."

Dr. Hutchinson evidently considers that nurses should be permitted to anesthetize obstetrical patients in the absence of a physician, although he calls the process "delicate and somewhat risky." I am assured that the delivery of the infant in normal cases is neither delicate nor risky, so that, according to Dr. Hutchinson's ideas, the dangerous part of an ordinary obstetrical case may be left to a non-medical individual, and the simple part to a physician. That any one will treat this proposition seriously seems incredible, although a properly educated trained nurse might be a much safer obstetrician than are many midwives.

425 Porter Avenue.

Constriction of arteries raises the blood-pressure in them and in the larger arteries, but lowers that in the capillaries, and affords an obstacle to the output of blood from the heart, which may become overdistended and unable to contract.

LEGISLATIVE LIES IN MEDICAL JURISPRUDENCE.*

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The prevalent American idea that legislative bodies are omnipotent to accomplish any or all matters that are or are assumed to be productive of popular good, often results in unfortunate situations, especially when these efforts are based upon ignorance, even assuming that they are made in good faith and that this ignorance is not criminal.

Every right-minded person recognizes the terrible misery to which the use of habit-forming and narcotic drugs subject their victims, and should aid in preventing these unfortunate results. Sociologists as well as physicians and lawyers know full well the poverty to which the habitués are reduced, as well as the crimes which they commit to obtain a supply of their favorite drug when such is debarred them. Every one is willing, indeed eager to aid in every effort to prevent narcotic drug habituation and to mitigate the sad effects. But these efforts should reach the source of the difficulty and be intelligent efforts to correct the abuses.

The Boylan law, enacted by the legislature of the State of New York, which went into effect on the first of last July, dealt with chloral, opium or any of its salts, alkaloids or derivatives; or any compound or preparation of any of them. Cocaine, its salts and derivatives, was already subject to legislative enactment. By chloral was of course intended hydrated chloral for chloral as such is not employed in medicine. That this law was entirely ineffective either in diminishing drug habituation or preventing the habitués from obtaining adequate quantities, was at once evident, because no increase of crime was noted, such as would have occurred had the source of supplies been even limited, much less cut off. Inasmuch as the provisions of this law were practically the same as those of the Harrison law, enacted by the Congress of the United States and which became effective March first of this year, both of these contributions will be considered at the same time.

The Harrison law applies to opium and coca leaves, their salts, derivatives, and so forth. When this law first came before Congress it presented many features which were unscientific, unconstitutional and mendacious. Thanks, however, to the work of a committee appointed by the Society of Medical Jurisprudence, which consisted of Dr. Frank H. Daniels, Charles Wesley Dunn, Esq., and myself as Chairman, some of these objectionable features were eliminated, and that more were not, was a source of regret to the gentleman, who however dissented at the time of making our report, but later concurred with Dr. Daniels and myself when a more careful study cleared up the doubt in his mind as to the validity of our conclusions.

The law, as it now stands, illustrates what occurs when legislators attempt to deal with something of which they know nothing, and here as elsewhere, good intentions can not atone for crass ignorance, and it is conceded that the intentions of Congress were mostly—not entirely—good. The qualification of this last statement is justified by the fact that the patent medicine exemption joker appears here as it does in all other similar laws.

Opium is not, as legislators seem to think, a simple substance, but like most products of vegetable origin, a very complex one. For instance, it contains nineteen alkaloids, viz.: morphin, codein, thebain, narcotin (properly called anarcotin), narcein, papaverin, pseudomorphin, deuteropin (not known in pure state), protopin, oxynarcotin, cryptopin, hydrocotarnin, laudanin, laudanosin, meconidin, rhœadin, codamin, gnoscopin, and lanthopin, the last in minute quantity, also two neutral bodies, meconin and meconiasin, two organic acids, meconic and thebolactic, also mucilage, resin, pectin, glucose, fats, essential oils, caoutchouc, odorous substances, and ammonium, calcium and magnesium salts, besides about 16 per cent. of water. There are also various derivatives of morphin, as diacetyl-morphin (heroin), diethyl-morphin (dionin) and an artificial alkaloid apomorphin, the last made by heating morphin in sealed tubes with an excess of hydrochloric acid. Not all of these alkaloids are narcotic or habit forming: for instance, anarcotin is antiperiodic, acting like quinin, cotarnime is hæmostatic and is employed as a styptic in certain forms of hæmorrhage, while apomorphin is, in small doses, an expectorant of extensive use in tracheal and pulmonary disease, especially in bronchitis, and in large doses is the surest and most employed emetic, particularly when administered hypodermatically, in instances of poisoning, especially narcotic poisoning. None of these three substances are in the slightest degree narcotic, nor is it possible for them to be habit forming. Yet when their purchase is necessary, the physician must possess all the paraphernalia required by law and when he prescribes must assent to the lies enacted by Congress and arouse suspicions in the mind of his patient that he is receiving narcotic remedies. Because Congress in its ignorance has enacted that apomorphin is narcotic and habit-forming, it must be so recorded under penalty of fine or imprisonment of the prescriber, although apomorphin will still continue to cause vomiting when administered in proper dose in defiance of Congress and all others in authority. Presumably the Harrison law could only be brought into harmony with science by catching all the congressmen who voted for the bill and administering to them one-tenth of one grain of apomorphin hydrochloride hypodermatically with the hope that they might be impressed with the fact that an emetic is not a habit-forming drug. A lie cannot be made truth by act of Congress.

The receipt, so-called, which the physician secures when he pays his yearly tax, resembles very closely that required to be displayed by liquor dealers. Quite likely the Commissioner of Internal Revenue is not aware that medicine is practiced as a profession and is not conducted as a trade, more or less of a nuisance, as liquor-selling. However, he should be found, identified and instructed, by whatever means most convenient and effective in the significance of ordinary English terms.

Coca leaves are also complex in their composition. They contain at least three alkaloids, viz.—cocain which is methyl benzoyl-ecgonin, cocanin or isotropylcocain and cinnamyl-cocain and in addition coca-tannic acid and coca-wax. The coca-tannic acid is of course astringent and not narcotic nor habit-forming; the latter two properties apply also to the coca-wax. Among the preparations of coca leaves are the decocainized leaves which are used for flavoring purposes, which are of course not narcotic nor habit-forming, and yet are covered by the provisions of the Harrison law. This inclusion is inexplicable for the reason that the Secretary of Agriculture was instructed on this point, thousands of dollars of public funds having been expended upon his education. The decision of the United States Cir-

* Read before the American Association of Medical Jurisprudence at the Third Annual Meeting, at Long Beach, New York, May 22, 1915.

cuit Court of Appeals in the coca-cola case established the fact that this preparation (decocainized coca leaves) is absolutely devoid of cocain and therefore is not narcotic nor habit-forming. Possibly Congress is neither aware of the existence of such a court, nor of this decision, or if aware, does not consider itself bound by the decisions of this or any other court.

Legislation to regulate the use of narcotic and habit-forming drugs, to be effective, must be intelligent and honest. It is not intelligent when it includes in the operation of such laws, drugs which are not and could not possibly be narcotic and habit-forming. Such inclusions are legislative lies, for which there is no excuse; the only reason for their being written into the statutes is ignorance on the part of the legislators. It is not honest so long as the patent medicine exemption joker appears in such law as it always does appear. In my experience an habituè produced by the carelessness of a physician or by the cupidity of an apothecary, is of the rarest of occurrences, proprietors of quack institutions for the treatment of drug habituation to the contrary. On the other hand, the unrestricted sale of habit-forming remedies, under the guise of patent medicines, the composition and properties of which are unknown to the consumer, nor can they be ascertained by him, is undoubtedly the cause of the largest number of drug habituès. Until the provisions of the antinarcotic laws cover all preparations containing narcotic and habit-forming drugs, irrespective of what the amounts contained may be, we are justified in denouncing all such legislation as dishonest if not venal.

Saccharin is official under the name of benzosulphinidum in the United States Pharmacopœia which became the legal standard on September 1st, 1905, by Act of Congress. The dose of saccharin was determined as 0.20 gram (3 grs.) by a Committee duly appointed, consisting of Hobart A. Hare, M. D., Professor of Therapeutics at the Jefferson Medical College of Philadelphia; Walter S. Haines, M. D., Professor of Toxicology at the Rush Medical College of Chicago; Edward H. Squibb, M. D., a highly educated scientific manufacturing chemist of Brooklyn; myself, at that time Professor of Medicine at the New York Post-Graduate Medical School and Hospital; John J. Abel, M. D., Professor of Pharmacology at Johns Hopkins Medical School at Baltimore. This dose, which by instructions from the Pharmacopœial Convention is the average approximate dose for an adult, but neither a maximum nor a minimum one, is not to be regarded as obligatory upon the physician, nor is he forbidden to exceed it when in his judgment this seems advisable. Considering the daily amount of three doses the average quantity of saccharin *per diem* would be 0.60 gram or 9 grs. The report of the Committee on Posology was adopted by the Committee on Revision and thus became law, and until the next revision, now in preparation, becomes obligatory, remains the law. The Committee fixed an amount *per diem* which experience had shown to be absolutely harmless, and to the present time there has been no instance, so far as it is known, of any injury having resulted from the ingestion of saccharin, save one reported by Bojohm in the *Berliner Klinische Wochenschrift*, IX, S., 280 in 1906, and that is so incompletely and imperfectly reported that it is impossible to determine what caused the temporary symptoms of which the patient complained. At least, this can be said: the explanation alleged by the reporter is untenable and improbable.

The influence of saccharin on digestion, metabolism and general health by Dr. Christian A. Herter, who studied this question, reported that three subjects being experimented upon for 129, 164 and 154 days, respectively. One of these subjects showed disturbed health but "the most careful consideration of the conditions in this case (patient) from every available point of view, failed to develop any evidence that the disturbances of health above mentioned were connected with the taking of saccharin." The others showed no evidence that their health was influenced. Two approximately normal subjects were under the care of Dr. John S. Thacher—one of these believed "that the experiment had made no change in his condition"; the other reported that he was "feeling fine," and this was borne out by his general appearance. A third patient, suffering from hyperchlorhydria, was under the care of Dr. W. G. Lyle, who concluded, "both from the testimony of the subject in regard to his condition and from the result of the physical examination, no deleterious effects could be attributed to the ingestion of saccharin." Herter finally concludes that "relatively large doses of saccharin (over 0.3 gram (3 grs.) and especially above 1 gram (15 grs.) daily), if continued for considerable periods of time (months) are liable to induce disturbances of digestion. On the other hand, small doses of saccharin (0.3 gram or less (3 grs.) may be taken daily during long periods of time (months) by normal adults without any detriment to health ascertainable by the available methods of study." Herter also states the quite obvious fact that "no evidence was attainable that the addition of saccharin to the food altered the quality or strength of the food."

Dr. Otto Folin has studied the effect of saccharin on the health, nutrition and general metabolism of man, seven having been chosen by lot to take saccharin and five others serving as controls. He asserts that from 75 to 90 per cent. of the saccharin ingested is eliminated by the urine, and further that habituation to this substance did not occur. The general conclusions of the Referee Board were based upon the use of the "small dose" and upon that of the "large dose"; the former was up to 0.3 gram (5 grs.), the latter ranged from 0.75 to 1.5 gram (12 grs. to 22 grs.) per day. These doses were arbitrarily selected and although there is no direct statement, remembering that the sweetening power of saccharin is five-hundred times that of cane sugar, the small dose would correspond in sweetening power to 150 grams or approximately 5 ounces of cane sugar which is usually considered the limit of sugar tolerance by the average normal adult. The large dose, in sweetening power would be represented by 750 grams of cane sugar or approximately 1½ pounds, an amount obviously far beyond the tolerance of an adult. The main general conclusions reached (1911) are:

"(1) Saccharin in small quantities (0.3 gram) (5 grs.) (per day or less) added to the food is without deleterious or poisonous action, and is not injurious to the health of normal adults, so far as is ascertainable by available methods of study. (2) Saccharin in large quantities (over 0.3 gram) (5 grs.) per day and especially above 1 gram (15 grs.) (daily) added to the food, if taken for a considerable period of time, especially after months, is liable to induce disturbances of digestion. (3) The admixture of saccharin with food in small or large quantities has not been found to alter the quality or strength of the food." Apparently the fact that saccharin, if given in any such amount as quoted in (2), leaves a disagreeable, bitter taste in the mouth, and prevents its ingestion, was overlooked.

Notwithstanding the report of the Referee Board, the United States Department of Agriculture declared that "saccharin in food is such an added poisonous or other added deleterious ingredient as is contemplated by the

(Food and Drugs) act and that the Secretary of Agriculture, therefore, will regard as adulterated under the food and drugs act foods containing saccharin after July 1, 1911, which date was afterward changed to January 1st, and again to April 1, 1912. After further consideration another illuminating decision—illuminating in the sense that it threw a dark light on the subject—was rendered by the Secretary of Agriculture and of Commerce and Labor, while the Secretary of the Treasury, in the only really sensible contribution to official pronouncements on this subject, dissented. Evidently from these reiterated decisions saccharin had gotten beyond the realm of science, was to be considered from the standpoint of obstinate ignorance, and in defiance of all accepted facts.

Some time ago the New York Board of Health resolved "That foods or food products containing saccharin be deemed adulterated under the Sanitary Code," on August 22, 1911. The representative of this Board in a recent trial stated in court that a "Section of the Charter makes a resolution of the Board of Health a city ordinance, or force of law, or an order, the violation of which would constitute a crime." The New York Board of Health consists of the Health Officer of the Port, the Commissioner of Police, and a Commissioner of Health appointed by the Mayor.

A manufacturer of a very interesting 28 ounce bottle of strawberry soda, labelled as containing one-hundredth of one per cent. of saccharin, was haled into court as a violator of a law (?) of the Board of Health. Although it would be necessary to drink three such bottles of this beverage to ingest the quantity of saccharin, 0.3 gm. (5 grs.) which the Referee Board declared was harmless, yet the manufacturer, according to the Board of Health resolution, was a criminal in spite of the fact that he endeavored to publish his turpitude by declaring on the label the amount of saccharin which it contained. Another interesting fact was that if sufficient sugar to give the same sweetening power, had replaced saccharin, 5.8 ounces of sugar (⅓ pound) would have been required, which a physician would declare to be likely to tax the sugar tolerance of the individual and produce serious symptoms and possibly disease. Another interesting fact was that strawberry soda made with the desired amount of sugar and no saccharin by another manufacturer, after standing developed a vigorous growth of mould and became decidedly unappetizing. But so long as this did not contain saccharin it was eligible for consumption; the only difficulty was to get people to really like to drink it.

Of course the fact that saccharin was harmless could not be assailed so it was necessary to bring into the record the apparently irrelevant, caloric doctrine, which, for the occasion, was assumed to represent food values. Among other enlightening statements was that of a Professor of Physiology "that taking the sugar from the can (of corn) and substituting saccharin therefor will reduce the calories, the food value of the corn by 9 per cent."—apparently forgetting the obvious conclusions of Herter and of the Referee Board, as well as the decision of the Supreme Court of the United States, "that the addition of an innocuous ingredient to a food does not alter the strength or quality of the food." And to further obscure the issue, a representative of the aforesaid Board evolved that "approximately 20 per cent. of the food value of the diets that are given (in certain hospitals) is represented by the content of sugar in that diet," in spite of the fact that no one ever claimed that saccharin ever had any food value or was even added to food save for its value as a condiment which is of course a food-accessory.

In the case of saccharin the legislative lie was the result of a pseudo-law scientifically opposed to the findings of a Committee of distinguished experts.

These two instances, not isolated nor indeed more striking than others which could be presented, simply illustrate the title of this paper. Legislatures are impotent to turn ignorant lies into scientific truth or to make remedies have contrary physiological action from what they have been endowed. The legislature may enact that an emetic is a narcotic and habit-forming drug, but it will continue to produce vomiting and physicians can not be persuaded that any narcotic or habit-forming properties have been acquired. A harmless condiment will continue its usefulness irrespective of what pseudo-legislative persons, or Boards, may declare, nor can it be persuaded to appear as a deleterious substance. Such decisions are simply evidence of prevailing ignorance and of the arrogance of ignorance.

679 Madison Avenue.

UNUSUAL EFFECTS OF GONOCOCCUS INFECTIONS: INTRAPARTUM FRACTURES.

From the Surgical Clinic of

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PROFESSOR OF SURGERY IN THE LONG ISLAND COLLEGE HOSPITAL,

Brooklyn, N. Y.

Unusual Effects of Gonococcus infections.

History: Patient, male, eighteen years old, entered the hospital four weeks ago because of a compound Pott's Fracture sustained by being thrown from a wagon. The wound was treated with all aseptic precautions and drained, and the limb immobilized in a splint. Four days later pus appeared in the wound and subsequently spread up the leg as far as the thigh. As you observe it has required extensive incisions about the leg and thigh to secure adequate drainage. The discharge has been so profuse and persistent that we were curious to know the germ cause of this extensive suppuration. A culture made from the wound discharge disclosed the gonococcus. After this discovery we directed our inquiry toward the cause of this rather unusual condition and found that the patient was suffering from gonorrhoea when the accident occurred, a fact which had not been obtained on his admission to the hospital. The patient stated that he had acquired the infection three days after being exposed, about six weeks previous to his accident. There are only two ways in which this wound could become infected with the gonococcus: (a) Either the gonococcus circulating in his blood found a point of lowered resistance and there set up a focus, or (b) at the time of the accident the patient may have become inoculated from the germ in question present on his clothing. The first of these suppositions is more consistent with the facts.

Remarks: We are too prone to circuscribe the effects of certain infectious diseases. Because of certain local manifestations we have erroneously concluded that certain infections are purely local diseases. Pneumonia is more than a local disease of the lung, just as typhoid fever is more than a local disease of Peyer's patches. As more care is used in determining the bacteriology of obscure suppurations we shall find that gonorrhoea is not always localized, but that it is an infection which may manifest itself in numerous ways. In fact a review of the literature on gonorrhoea shows that there is not a single organ in the body which at one time or another may not be the victim of such infection. Beginning with the meninges of the brain and ending

with a felon, the gonococcus has manifested an ability to migrate that other germs would find difficult to emulate. Ever since it was demonstrated by Neisser in 1879, the gonococcus has repeatedly been shown to be an inhabitant of places both remote and foreign from the common site of infection. We have become so accustomed to hear the expression "gonorrhœal rheumatism" that from a surgical standpoint it has ceased to be the subject of absorbing interest it was sometime ago. From one hundred cases collected at random, the gonococcus pure was found in four per cent., mixed in thirteen per cent., and in eight-three per cent. no organisms were found at all, the diagnosis being made from the history, objective and subjective symptoms. In twenty-four cases mentioning the time of occurrence of the joint affection, fourteen followed the first attack, six the second, and of the four remaining cases, one occurred after the third, and three after subsequent attacks. In twenty-one of these twenty-four cases the disease ran a chronic course.

Baer reports the case of an injured wrist without open wound, which subsequently became swollen and purulent. Gonococci were demonstrated in the pus.

Park at a meeting of the Genito-urinary Surgeons held in Washington in 1888 reported a case of pyemia following acute gonorrhoea. Two weeks after the primary infection the discharge ceased and then followed swelling of the knees, sepsis, a typhoidal condition, and death. At the autopsy pus was found in the sterno clavicular articulation in which also there was erosion of bone. Other joints also contained pus. The mesenteric glands and spleen were enlarged. Thomas has reported two cases of gonorrhoeal peritonitis occurring in the male.

Meyer brings this infection down to the commonplace when he declares that in his case of a felon from which the gonococcus in pure culture was obtained, contact infection was the responsible factor. His patient was a woman twenty-three years of age, affected with gonorrhœal vaginitis. A short time previous to admission she had injured the radial side of the index finger of the right hand by means of a small iron instrument. Three days after this accident a blister about the size of a dime developed at the point of injury, which contained

Fig. I.—Double Rectangular Splint and Position of Arms When Applied in Fracture of the Humerus (after Spitzy).

Fig. II.—The Inverted L-shaped Splint, and Position of Arms When Applied in Fracture of the Clavicle (after Spitzy).

thick, yellowish pus, and its base presented a ragged appearance. The skin defect healed slowly. The tendons and joints in the immediate neighborhood were not affected. Gershel's case well illustrates the ability of the gonococcus to localize itself at a point where we would least suspect it. He reports positive findings in a subcutaneous abscess in a child two years old. The child was admitted to the hospital with a diagnosis of typhoid fever. Two days after admission there was evidence of gonorrhœa, the origin of which could not be determined. The abscess occurred a week after admission, and presented at the left of the anus. Three days later a similar abscess presented at the right side. There are many cases reported of subcutaneous abscess of undoubted gonorrhœal origin.

Thus it will be observed that once the gonococcus has invaded the blood there is no knowing where it will strike. In all obscure suppurative conditions search should be made for a possible primary gonorrhœal focus. The role of the gonococcus as a pathological possibility in the various tissues of the body must be accorded a wider field.

Intrapartum Fractures.

History: Patient, child two days old, is brought to the hospital because of a fracture at the middle third of the humerus discovered immediately after delivery.

Comment: Fractures occurring during delivery are not frequent, but they are of sufficient importance to merit special consideration. The problem involved is one which presents many difficulties, since the soft plastic body, the tender skin, the adipose tissue which surrounds the bones, all present formidable obstacles in applying and retaining splints that are practically efficient. In the case before us we have an oblique fracture of the humerus at the middle of the diaphysis.

There is no difficulty in making the diagnosis. The problem before us is what form of immobilization can be utilized to advantage. When the shortness of the arm and its plasticity are considered, it is obvious that

the usual methods of treatment applicable to older children and adults are not only inefficient but impractical. Of what use is a right-angle splint in such a condition? The arm is only a few centimeters in length, and such a splint will accomplish no purpose. To splint the arm in permanent extension is likewise impractical, since a bandage tight enough to secure the arm to the splint will almost invariably cause edema of the hand.

The only practical solution of this problem has been suggested by Spitzy, who fixes the elbow at right angles in a horizontal elevated position upon a long double rectangular splint, using the uninjured arm as a means of fixation.

Application of Splint: From thick cardboard we cut a double rectangular splint of proper size. The splint is well padded and the pads secured with adhesive strips. The splint passes across the back from one arm to the other, holding the arms in an elevated horizontal position, the forearm being flexed at a right angle. In this position the splint is secured by bandages (Fig. 1). It is obvious that when the extremity is thus immobilized neither the movement of the child nor the handling which its care necessitates compromise the fixation of the fragments.

Remarks: There are two other frequent sites of fracture occurring during delivery; they are the clavicle and femur, and their proper immobilization presents the same difficulties as obtained in the case just cited.

We are also indebted to Spitzy for suggesting a method of immobilization which is at once practical and efficient.

In fracture of the claicle our aim must be to prevent the shoulder from falling forward and thereby obviate overlapping of the fragments and angular deformity. The same principle is used in applying the splint here as in fractured humerus. An inverted T-shaped splint is used, passing across the back and embracing the forearms, which are flexed at a right angle and held in a horizontal position (Fig. 2). In this position the arm is rotated outward, the anterior portion of the capsule of the joint is held taut, pulling the fragment outward and backward, and thus preventing overlapping and angular deformity.

Fracture of the femur presents all the difficulties presented in fracture of the upper extremity plus the serious problem of keeping the dressings unsoiled. Here the Spitzy method takes advantage of the natural biological position of flexed hip and knee joints as the most comfortable for the child and the most convenient for handling it in caring for its needs. This position is maintained by an anterior splint embracing both extremities and extending from a point corresponding to the lower end of the sternum to and including the foot.

Fig. III.—Splints in Position in Fracture of the Femur (after Spitzy).

Fig. IV.—Dressing Completed in Fracture of the Femur (after Spitzy).

The apparatus consists of two strips of iron, one inch wide, united at the upper end by a rivet. The splints are bent to correspond to the curve of the abdomen and the anterior aspect of the lower extremity in its natural position of comfortable flexion, and prolonged at right angles over the dorsum of the foot (Fig. 3). To this splint both extremities are fixed. The advantages are obvious—cleanliness, comfort and efficient fixation (Fig. 4).

394 Clinton Ave.

How Many Drug Addicts Are There?

"Since the passage of the Harrison Narcotic Law, numerous statements have appeared in newspapers and medical journals regarding the number of drug addicts in the United States. Most of these statements," says the *Journal A. M. A.*, "are mere guesses, no accurate data existing on which to base any careful estimates. Certainly the maximum figures given by some writers are greatly exaggerated. In a recent issue of the *Scientific American*, Lucius P. Brown, food and drug commissioner of the State of Tennessee, furnishes data on which to base a more or less accurate estimate. From figures derived from the operation of the food and drug laws of Tennessee. Commissioner Brown estimates that there are approximately 5,000 drug addicts in that state. As Tennessee comprises about 2⅓ per cent. of the entire population of the country, this would indicate that there are about 225,000 drug addicts in the United State. 'But,' says Mr. Brown, 'Tennessee being an agricultural state and therefore decidedly more free from such addicts than those states where the pressure of modern life is harder, we should add 10 per cent. at least to this number on the assumption that the drug addicts throughout the country will average 10 per cent. higher than in Tennessee, giving in round numbers 247-000 drug victims for the entire country.' On these figures, he concludes that 250,000 is a maximum estimate, and that the addicts annually use about $6,500,-000 worth of drugs unnecessarily. These figures, as Mr. Brown says, are bad enough, but they are very different from the two or two and one-half million drug addicts which have been claimed by some sensational writers. This estimate is interesting, though, being based on figures from a single State, it must be regarded as only an approximation."

PROSTATIC AND RENAL SURGERY.*

HENRY H. MORTON, M. D.

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Brooklyn, N. Y.

The first patient this afternoon is an old man whose prostate I removed a week ago. The operation of a simple prostatectomy has become an old story by this time, but there are many points of such interest in this case that I have brought him up to show you as a demonstration of some of the procedures which I have endeavored to impress upon you in these clinics.

This man entered the hospital on May 4. He was semidelirious and we could only get an imperfect history. We ascertained, however, that for the last four months he had had difficulty in urination. For the previous two weeks he had not been able to urinate voluntarily, but had suffered from constant dribbling, had been feverish and had nausea and vomiting. His tongue was dry and brown—the typical tongue of urosepsis. He was delirious and examination of the abdomen showed that the bladder was distended and reached up to the umbilicus. A catheter was introduced and a few ounces of urine were drawn off, which, on examination, was found to be alkaline, specific gravity 1008, foul-smelling and filled with pus. Rectal examination showed a moderate enlargement of the prostate.

We had, then, a case of urosepsis with a distended bladder and probably pyelitis. If we had emptied the bladder completely at the time that the catheter was introduced I would not have had the pleasure of presenting him today for he would have joined the great majority. In these cases we must only draw off a little urine at a time and empty the bladder gradually. In order to avoid the irritation of passing a catheter every few hours we introduced a catheter, tied it in and put a cork in the end so that the nurse could withdraw the cork every few hours and draw off eight or ten ounces of urine at intervals through the day.

In spite of the frequent and partial emptying of the bladder, his condition became worse and he was so delirious that he pulled the catheter out as often as it was introduced. We had to restrain him to keep him from getting out of bed and it was evident that some other form of drainage would have to be adopted. I, therefore, followed the plan suggested to me by Dr. Hugh Cabot, of Boston, of plunging a large-sized trocar through the abdominal wall into the distended bladder, inserting a self-retaining catheter through the trocar and then pulling the trocar out and leaving the catheter in place. This slight operation can be done under cocain and the distended bladder is easily reached without damaging the peritoneum. The self-retaining catheter is held in place and with a cork in the end the bladder can be gradually emptied. The other treatment consisted of forced ingestion of water by mouth, the Murphy drip per rectum and urotropin and benzoate of soda by mouth. In a few days the bladder was entirely emptied and then regular bladder washing with nitrate of silver twice a day was instituted. Ten days after the establishment of bladder drainage the patient's condition was most gratifying. His tongue was clearing nicely, his skin and color were healthy in appearance, his mind was entirely clear and he was able to sit up in a chair alongside the bed. The pressure of the catheter through the suprapubic wound had caused a slight leakage of urine from the bladder and ten days after the suprapubic drainage was instituted I withdrew the catheter, but continued the bladder drainage through a catheter retained in the urethra.

His condition continued to improve constantly and four weeks after he entered the hospital we made the phenolsulphonepthalein test to determine whether an operation could be safely attempted. The thalein showed 18 per cent. in the first hour and 12 per cent. in the second hour. The specific gravity of the urine was still only 1008 with a large quantity of pus. Although his general condition had so much improved, the low thalein output made me fear to attempt the serious operation of prostatectomy, and I continued the bladder drainage and the forcing of water. Another week of this treatment brought the thalein up to 28 per cent. in the first hour and 36 per cent. in the second hour and I accordingly considered it safe to remove his prostate. The suprapubic wound had healed and rectal examination showed the prostate to be low down and easily reached through the perineum. For these reasons I elected perineal prostatectomy. The patient was anesthetized with gas-oxygen-ether and the prostate was easily and rapidly enucleated through an incision in the urethra. The rapidity of this form of perineal prostatectomy commends itself in these cases where the patient is very feeble and has damaged kidneys. It required only one minute and a half to make the incision and enucleate the prostate and a few minutes more were consumed in inserting the perineal tube and the packing.

It is now a week since the operation was done and you see the excellent condition of the patient. His mind is alert, his tongue is clear and moist and he is passing 50 ounces of urine a day through the tube. We will take the tube out tomorrow and have him up and about the ward.

The particular points of interest in this case are the effects of bladder drainage and forced water in rescuing a case which was apparently hopeless, and the rapid operation which is accompanied by very little shock. This case will emphasize the points which I have so often made and which I speak of as the tripod of safety in prostatectomy, namely, preliminary treatment of bladder drainage and forced water, rapidity of operation and minimum of anesthetic and the post-operative use of the Murphy drip.

The next patient is a man 50 years of age, on whose kidney I operated a week ago. This man had been complaining for eight or ten years of a constant pain in the left side. He had never suffered from distinct attacks of renal colic, but from a constant grinding, dull pain in the flank, from which he was scarcely ever free. His urine had never contained blood and but very little pus. He had drifted from one physician to another until he came into the hands of Dr. Mahr, who suspected the condition from his history and advised him to have a radiograph made. A radiograph by Dr. Eastmond showed a dense shadow in the pelvis of the left kidney. I catheterized his ureters, making use of the indigo carmin test at the same time. On the right side the indigo carmin returned in fifteen minutes; the urine contained 7½ grains of urea; no white blood cells. On the left side the indigo carmin was delayed for thirty-two minutes; there was one grain of urea and much pus. On both sides there were a few hyaline and granular casts.

Our diagnosis, then, of stone in the pelvis of the kidney was thus demonstrated with mathematical exactness and was based upon the radiographic shadow, the delayed indigo carmin and the presence of pus on one side.

* Clinical lecture at Long Island College Hospital, Brooklyn.

Fig. I, Case II.—Radiograph of Calculus Removed by Pyelotomy.—*Courtesy of Dr. Chas. Eastmond.*

Last week I cut down upon the kidney with the usual incision, brought the kidney up on the flank and found a stone lying in the pelvis of the kidney, just where I expected to find it. I made an incision into the pelvis of the kidney and removed a stone the size of a lima bean, closed the kidney wound with catgut sutures and sutured the rest of the wound with a small gauze drain and a small rubber tube. There was a slight leakage of urine for three or four days, but that has now ceased. The wound, as you see, is healing and the patient will be discharged in a couple of weeks with two sound kidneys, having added an interesting specimen to our museum collection of calculi.

Fig. II, Case II.—Renal Calculus Removed by Pyelotomy from Man.

Fig. III, Case III.—Renal Calculus Removed by Nephrolithotomy. Supernumerary Veins of Kidney Ruptured.

The patient on whom I am about to operate is a woman referred to me by Dr. William H. Shepard. She is 44 years old and has never been sick except for the present trouble, which dates back ten years. She has complained of pain in the right flank extending around to the groin. She describes it as a sharp pain aggravated by quick movements, and says it resembles a knife stick. The pain is always present, but there are times when it is worse, the exacerbations lasting for an hour and then letting up. She is obliged to pass her water at least every hour and gets up two or three times at night to void small quantities. Dr. Shepard suspected the presence of a renal calculus and sent her in to us for diagnosis and operation.

Examination of the bladder urine showed it to be acid, S. G. 1029, and contained many red and white blood cells. No casts were found. The radiograph showed a distinct shadow at the lower pole of the kidney. On ureteral catheterization both urines were very turbid and contained quantities of broken-down detritus. The indigo carmin did not show at all on the right side, but in fifty-five minutes there was a faint tinge on the left side. The right urine contained 11 grains of urea and the left side 16 grains.

These findings were not what we had expected and to check up our results we catheterized the ureters again a couple of days later. The right catheter was plugged with a bit of mucus and after thirty minutes the plug was dislodged and the indigo carmin was strongly visible, whereas only a faint tinge appeared in thirty-five minutes on the left side. The right side contained 14 grains of urea while the left side contained 12 grains of urea. It was evident, then, that both kidneys were secreting freely but in this case our ureteral catheterization did not help out very much in the diagnosis. It merely showed us that if it should be necessary to remove the kidney on the right side, the left kidney was sufficient to support life.

For a diagnosis of stone in the kidney we had to depend on the shadow which showed in the radiograph. Putting the facts together, however, with a very distinct shadow shown by the radiograph, taken twice on different days, the shadow always being in the same place, with the constant and intense pain which disabled her and rendered her physically incapable of doing her work, and with the knowledge that we had a sound kidney on the left side, I considered it at least justifiable to do an exploratory operation and inspect the kidney and it is probable that we shall find a stone somewhere in the kidney which is evidently so placed as not to interfere materially with the secreting function of the kidney.

The patient is now brought in and draped and I proceed to make the usual oblique incision. In this case the operation is made more difficult on account of the immense layer of fat which lies over her chest and abdomen. As you see, it is at least two inches thick. I cut through the muscles, expose the kidney and bring it out on the flank. There is a good deal of venous bleeding and in order to control this I place my clamp protected with India rubber tubing around the kidney pedicle. The bleeding has now ceased and I proceed to explore the kidney. As I palpate the kidney I come upon a resisting area, which is certainly a stone, at the lower pole. I cannot do a pyelotomy because it is too far removed from the pelvis, and so I make an incision with a knife through the thin kidney tissue over the stone. I grasp the stone with my forceps and bring it out and as I hold it up you can see an irregular stone with one long projection which extends into the calyx of the kidney. Through the incision which I have made I can reach the pelvis of the kidney with my finger and I explore it, but there are no more stones, and careful palpation over the kidney fails to show any more hardened areas. I therefore, sew up the incision in the kidney with fine catgut and am ready to return it to its bed. Before doing so, however, I will loosen the clamp on the pedicle and see if we have controlled the bleeding. As I loosen the clamp there is free bleeding from several veins. I proceed to ligate the veins with catgut and have now tied off three veins, but the bleeding is still continuing. I will try the effects of pressure and I pack firmly with gauze around the kidney. As I watch it, the

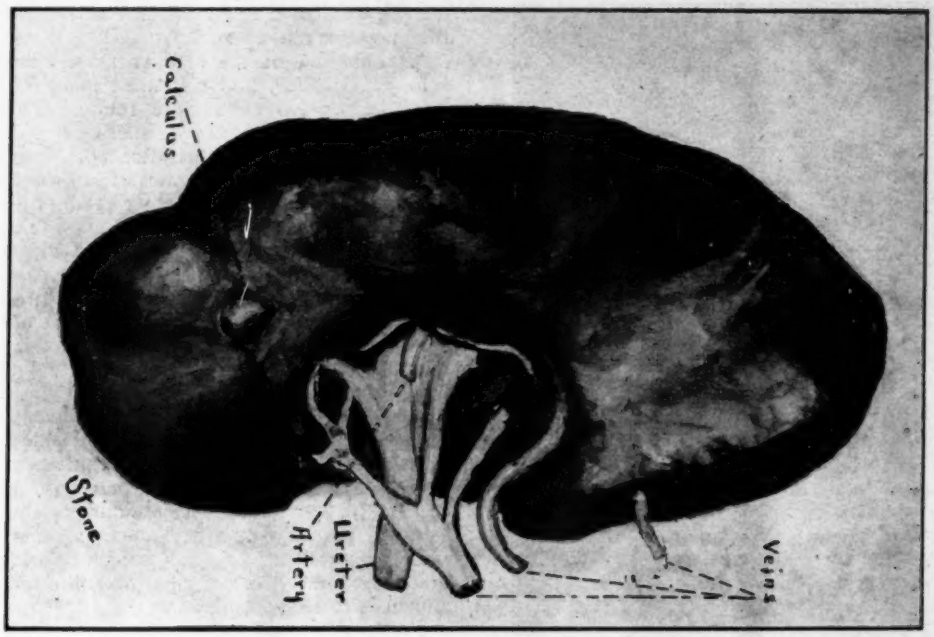

Fig. IV, Case III.—Kidney Supplied by Five Renal Veins.

blood continues to well up through the packing. It is evident, then, that neither ligation of the torn veins nor packing will control the hemorrhage and, very much to my regret, the only thing to do is to take the kidney out. I first ligate the ureter in two places and cut it and now I throw a double ligature of silk around the pedicle, drawing it tight, grasping the pedicle with a clamp above the ligature and cut the kidney free from its pedicle. I hold the pedicle with a Kocher forceps and slowly loosen the clamp. We have secured the blood-vessels of the pedicle. There is no bleeding and I drop the pedicle back into its cavity and put in a Miculicz tampon.

While Dr. Read is inserting the sutures let us examine the kidney to see if we can find the reason for the uncontrollable hemorrhage. I first split the kidney in two and here you see a perfectly sound kidney, except at the lower pole, where there is a small area of chronic inflammation which surrounded the calculus which I have removed. There is nothing here to cause bleeding. Let us now examine the blood supply. Here is the renal artery distinctly visible, but on looking for the renal vein I find it is absent. In its place, however, are five small veins which go into different parts of the kidney and its pelvis—an anomalous distribution of the blood supply. It is evident now what the difficulty was. Instead of having one vein which would stretch in pulling, you notice the layer of fat two inches thick, so it was necessary to draw the kidney out on the flank to a considerable distance to expose the pelvis and with these five thin-walled veins the tension was too great for them to stand the strain, consequently tears took place in the walls and the blood kept pouring out, even though the veins were ligated. Since I have discovered the anomalous distribution of the veins I feel that I did the correct thing in taking the kidney out since the ligation of the veins would not control the hemorrhage, although it seems a pity to sacrifice such a good organ as this kidney evidently was. These anomalies do occur, but this is the first time I have happened to meet with one. We have at least the satisfaction of having an interesting specimen to place in the anatomical museum, although I daresay the patient would rather not make such a contribution.

32 Schermerhorn St.

Alcohol.

C. C. Lieb, New York, has experimentally studied the reflex effects of alcohol on blood pressure, using cats as subjects, and also has studied and compared the clinical results reported, with observations made in the medical wards of the Roosevelt Hospital. From his experiments and observations, he says, it is evident that small doses of undiluted whiskey cause a reflex effect on the circulation in a certain percentage of the patients, which will probably explain the so-called stimulation which has been ascribed to the direct action of the drug on the circulation. This reflex is most evident in cases with hyperactive superficial and deep reflexes, and least so in those which are apathetic with the bacterial toxemia. It is more marked in moderate drinkers than in those who use alcohol to excess, probably on account of the protective secretion of mucous present in alcoholic gastritis. Irritating concentrations of alcohol are needed for this reflex, and the degree of response varies more or less directly with the degree of irritation produced. From his investigations, it appears that alcohol does not stimulate the circulation, either by increasing the heart beat, or by raising the blood pressure, and he concludes that it is evident from his experiments that even though whiskey may raise for a few moments the systolic blood pressure, and thus act as an apparent circulatory stimulant, it cannot be regarded as such in the true sense, since its decrease of cardiac efficiency raises disproportionately the diastolic pressure, and lowers blood pressure.—(*J. A. M. A.*).

McCann says radium is not a specific cure for cancer, and there is no justification for recommending radium in the place of operative treatment. It is further unjustifiable to submit an early carcinoma to prolonged radium treatment, for the chances of a successful operation are decreased by the delay.

Special Article

THE CAUSATIVE AGENT OF TYPHUS FEVER.

After foiling the best efforts of scientists for years, Dr. Harry Plotz, a recent graduate of Columbia University, New York, has differentiated the etiologic agent of typhus fever. Dr. Plotz was assisted in his experimental work by Drs. George Baehr and Peter K. Olitsky. The young bacteriologist concluded his work in time to be of immense assistance in curbing the typhus plague in Servia, in which unhappy country he is now carrying out further experiments.

The history of Plotz's labors were recited at a recent meeting of the Johns Hopkins Medical Society and reported in the *Bulletin* of July and is worthy of repetition.

1. Bacteriological Studies. Dr. Harry Plotz.

In a preliminary communication published in the *Journal A. M. A.* of May 16, 1914, I described an organism which I considered to be the etiological agent in typhus exanthematicus. Since that time I have had the opportunity of studying a much larger series of cases, and the results together with the serological and experimental studies have confirmed the opinion then expressed. The differentiation of the mild endemic form of typhus fever seen in New York from other fevers is due to the clinical insight of Dr. Nathan E. Brill. The similarity of typhus fever had been noted clinically, and the striking cross immunity experiments of Anderson and Goldberger demonstrated that the condition was most likely a mild form of typhus fever. As our studies give the definite proof that these cases are instances of typhus fever, we shall designate the European cases, epidemic typhus fever, and the New York cases, endemic typhus fever.

It had been demonstrated by early experiments that the virus exists in the circulating blood during the febrile period of the disease and that the virus is not filtrable. Ricketts and Wilder pointed out that the disease need not necessarily be caused by a protozoon, although it be insect-borne. Aerobic cultures made by different observers and by myself proved negative.

Up to the present time we have studied 11 cases of European epidemic typhus fever and 40 cases of the local endemic form of the disease. The former were studied through the kindness of Dr. Joseph J. O'Connell, health officer of the port of New York, and the latter through the courtesy of the attending physicians of Mount Sinai Hospital.

Aerobic studies, made according to the method of Rabinowitch, all proved negative. Anaerobic studies were carried out according to the method introduced by Veillon, modified in that serum glucose agar originally suggested as an optimum medium by Libman, was used instead of glucose agar. All ascitic fluids used were thoroughly studied aerobically and anaerobically, the presence of hemoglobinophilic organisms being excluded by their use.

Colonies of the organism usually appear in from three to sixteen days. After they have developed they are inoculated on slants of ½ per cent. serum glucose agar, the tubes then being inserted into Buchner tubes. The colonies usually appear in the lower two or three centimeters of the tube. There is first a small opaque spot which grows larger and is surrounded by a brownish area of precipitation. On cross-section the colony is Y-shaped, brownish in appearance and soft in consistency. The arms of the Y are fusiform.

The organism is a small pleomorphic Gram-positive bacillus, which is non-motile, non-encapsulated and not acid fast. Most of the organisms are straight, occasional ones are rounded or slightly pointed; coccoid forms also occur. Degeneration and involution forms appear early. Spores are not present. Polar bodies are occasionally demonstrable.

Besides the studies made in Buchner tubes, inoculations were made into a variety of media in the long tubes of the type used by Noguchi. There is no growth on agar or sugar-free bouillon after 20 days observation. Growth is present in ½ per cent. glucose agar with ascitic fluid and kidney tissue, but is better in 2 per cent. glucose agar. There is a minute flocculent growth at the bottom of the glucose bouillon tube after eight days.

In Buchner tubes, after three days on glucose serum agar, there is a creamy white growth which later may become light brown in color. There is moderate precipitation which increases on sub-culture. The growth on other media is described in the full publication.

The organism from the epidemic and endemic cases was found to produce acid and precipitation in glucose, maltose, galactose and inulin and not in raffinose, mannite, arabinose, saccharose, dextrine and lactose. The organism is an obligatory anerobe.

The organism was recovered from the blood in seven cases of epidemic typhus fever during the febrile stage; it was recovered from an eighth case by culture of the blood from an infected guinea-pig.

Of 34 endemic cases, 53 per cent. yielded the bacillus. In two endemic cases the organism was found in one, 12 hours, and in the other, 36 hours after the crisis. One hundred and ninety-eight control cases did not yield the organism. The organism occurs more frequently early in the disease. It occurs in larger numbers in the epidemic cases than in the endemic cases.

Considered in conjunction with the seriological and experimental evidence which follows, these facts prove that this bacillus is the etiological factor in typhus exanthematicus. Following a very kind suggestion of Professor William H. Welch, the organism has been named bacillus typhi exanthematici.

2. Serological Studies. Dr. Peter K. Olitsky, New York.

With the use of an antigen made up of strains of the typhus bacillus from endemic and epidemic cases, 11 cases of epidemic and 34 cases of endemic typhus fever were studied. Of 25 cases studied at the height of the disease, only two were positive. Of 10 cases studied at the crisis, four were positive. In the post-critical stage of the disease, nine epidemic and 30 endemic cases were investigated, and 71.8 per cent. were found to give positive reactions. The maximum concentration was found to occur between the second and twelfth day after the crisis. Observations were made as regards duration of the antibodies. One hundred and four control cases showed complete absence of complement binding bodies. Complement fixation studies made with the serum of typhus fever cases and antigens made from various organisms other than the typhus bacillus gave negative results.

Positive agglutinations were obtained in more instances than positive complement fixation tests. Only reactions in dilutions of 1-50 or higher were considered positive. Of 24 cases tested before the crisis, all were negative, except two which were tested one day before the crisis, both of which had a titre of 1 to 100. Of 10 cases tested on the day of crisis, three were positive and seven were negative. After the crisis, 38 cases

were studied, 92.6 per cent. of which were positive. Agglutinins have been demonstrated as late as five months after the crisis. Of a very large series of control cases no case had a reaction in a dilution of over 1 to 50 except three cases in which the occurrence of a previous attack of typhus fever could not be excluded. In these cases the reactions varied from 1 to 100 to 1 to 200. Control studies made by testing the serum of typhus cases against various organisms other than the typhus bacillus proved negative.

Investigations made concerning precipitation reactions showed that the curve was the same as that with the other antibodies, the most frequent results being obtained after the crisis. Serum from cases other than typhus fever gave negative results.

The opsonic index increases at the crisis and remains high in the convalescent stage of the disease. Similar rises were noted in artificially immunized serum (rabbit's). Phagocytosis is probably an important factor in overcoming the infection.

Cross-fixation investigations and cross-agglutination tests demonstrated that the organism obtained from epidemic typhus fever and the one from endemic typhus fever are two strains of the same bacterium.

A study of the serum of monkeys that had reacted to the typhus virus, showed that complement fixation and agglutination tests were usually positive after the crisis. The serum of immune guinea-pigs contained neither agglutinin nor complement fixing bodies. It is most probable that this animal develops its high grade of immunity by means of its tissue elements and only to a very slight degree by means of the circulating blood. Rabbits are not suspectible to the typhus bacillus in small amounts. When small yet increasing amounts of bacteria are given, they develop very potent immune serum.

The observations which I have described allow of only one conclusion—typhus fever is a reaction against the organism which has been isolated by Dr. Plotz.

3. Experimental Studies. Drs. George Baehr, Plotz and Olitsky, New York.

For the purpose of ascertaining whether the organism recovered from the blood of typhus fever patients was also found in animals having experimental typhus fever, a series of 24 guinea-pigs was inoculated with defibrinated blood obtained from patients or animals with the disease. Blood for cultures was obtained by direct aspiration of the heart. From one-third of these guinea-pigs the same bacillus was isolated that had been obtained from the blood of individuals with typhus fever. The number of colonies found averaged about one per cubic centimeter of blood. The organisms were found most frequently in animals having severe reactions. The majority of the blood cultures were positive when taken beween 24 and 72 hours after the onset of the fever. This is the time at which the fever is highest.

By inoculation of two strains of bacilli obtained from epidemic typhus cases, a typical reaction was produced in two guinea-pigs. The blood of one of these guinea-pigs were cultured on the third day of the reaction and the organism recovered. Other guinea-pigs or monkeys were later inoculated with these two strains of bacilli or with strains from other epidemic cases which had been in artificial media for more than three or four weeks, and all strains were found to have completely lost their virulence. In each instance the inoculation was followed only by a slight transitory rise in temperature during the first 36 hours, a reaction also observed in the experiments with virulent organisms and apparently due to a toxin reaction. After cultivation on artificial media for more than a month all strains of epidemic organisms lost this toxin action. The bacilli from endemic cases were found to lose their virulence outside the body still more rapidly than those from epidemic cases. These organisms were not only avirulent, but did not even possess the power of producing a toxic rise in temperature after inoculation, a property only lost by the epidemic typhus organisms after cultivation for over a month. The variation in virulence and in toxin production of the epidemic and endemic strains is the only essential difference which we have been able to demonstrate.

It was found that typhus blood which contains no bacilli or only very few bacilli is not infective for animals. It appears from a series of 57 experiments that infectivity is absolutely dependent upon the presence of a sufficient number of these bacilli. This in itself is conclusive evidence of their etiological significance.

Recently a study has been begun upon individuals who have merely been exposed to the infection of typhus fever. The interesting observation has been made that after the exposure some of these typhus contacts may react with the production of specific immune bodies without having had any clinical evidences of the disease.

FUNCTIONAL STIMULATION OF SENILE TISSUES.

I. L. Nascher, M.D.
New York.

In a paper on Longevity and Rejuvenescence, which I read before the Medical Association of the Greater City of New York on June 2, 1912, I referred to the Functional Stimulation of Senile Tissues as among the possibilities in our efforts at rejuvenescence.

Organs and tissues are naturally at the maximum of their functional capacity at the time when they are most perfect anatomically and histologically, i. e., between the 30th and 35th years. There is a wide margin at this time between normal functional activity and the limit of functional capacity—but, while the normal functional activity of most organs and tissues is known, we do not know, except in few instances what is the limit of functional capacity. The normal functional activity of the heart is a force of about 51½ pounds, exerted by the left ventricle about 70 times a minute. We do not know how much greater force the heart can exert, but we do know that its rate of action can be increased to about 160 or 170, and maintained at this rate for a short time. This is very near the limit of its functional capacity. If this rate is continued, the heart becomes exhausted, and if raised it becomes paralyzed. The athlete can "chin" himself forty or fifty times in succession, or run one hundred yards in ten seconds, but if he tries to raise himself once more he finds that his arms are paralyzed, and he finds it impossible to extend his legs or move them faster in order to make better time. The muscles have reached the limit of their functional capacity. The limit is determined by the amount of toxins elaborated in the process of action, the rapidity with which these toxins can be removed, and the expansibility of the muscle fibres, and, in the case of the heart and the tissues not under voluntary control, it is probably determined by the rapidity of response of the nerves and nerve centers, and expansibility of the muscle fibres.

With advancing age and degeneration of the tissues the limit of functional capacity is lowered. This is

usually not noticed until late in life, since normal functional activity is rarely increased to the limit of functional capacity, and as the individual grows older the normal functional activities are lessened. He finds, however, that physical fatigue and brain fag set in more rapidly, and it takes a longer time to recuperate, that the functional capacity of body and mind is diminished. With increasing degeneration of the tissues, then, capacity for work decreases and this proceeds more rapidly than the diminution in activity. Notwithstanding the myocardial degeneration which greatly reduces the functional capacity of the heart, that organ must propel the blood with sufficient force to maintain the circulation. When the force required reaches the limit of the functional capacity of the organ, the heart becomes exhausted or paralyzed. The same conditions exist in other organs. In advanced age the margin between normal functional activity and the limit of functional capacity is gradually reduced until it is wiped out, and, in the absence of disease (senile degeneration is physiological and not a disease) the body then dies from senile debility.

Functional activity can be increased to the limit of functional capacity, but the limit of functional capacity can apparently be raised but slightly, if at all, after complete normal development. It is possible to increase muscular development, as occurs in cardial hypertrophy, thereby increasing the working capacity, but this proceeds very slowly under constant stimulation, and it has a limit.

When this is reached further stimulation causes dilatation, degeneration or paralysis. In advanced age it is not possible to increase the limit of functional capacity, since the tissues are in process of degeneration. The degeneration is, however, not uniform in extent or in degree, indeed, we may find organs and tissues which in histological character, and in functions, do not differ from such organs and tissues during maturity, while allied organs and tissues show advanced senile degenerative changes. Functions may be impaired through mechanical or other avoidable obstruction to their action. The senile stoop interferes with the complete expansion of the lungs; lack of cleanliness prevents proper surface elimination; general inactivity lessens circulatory activity, with consequent impaired nutrition of organs and tissues; carelessness as to regular stools leads to constipation, etc.

In such cases functional stimulation is possible and advisable. The chest expansion can be improved by using a cane, and by wearing braces, which will hold the shoulders back, and, when seated, using an arm chair with the arms resting upon the supports instead of keeping the hands in the lap.

A dust-free atmosphere, as at the sea-shore, is beneficial.

Drug stimulation may be necessary if there is cyanosis. In this case small doses of atropia, given hypodermically, give speedy relief but the effect is temporary. If prolonged action and a lasting effect is desired, we must depend upon an increased supply of good air.

Cardiac stimulation is rarely required, unless decompensation has occurred. Stimulating an old hypertrophied heart will cause myocardial degeneration and dilatation.

Let me insert here a simple rule for cardiac medication. If the heart is weak and rapid use digitalis or strophanthus; weak and slow, spartein; weak but normal rate, strychnin or caffein; strong and rapid, aconite or veratrum; strong and slow, nitrites; strong and irregular (palpitation), ice bags over the heart; weak and irregular, strychnin.

The most effective treatment, if decompensation has set in, is absolute rest for hours or days, taking a minimum of nutrition in a concentrated form.

Where rapid action is required the alkaloids should be used hypodermically. The most rapid of the nitrites is amyl nitrite used by inhalation.

Stimulating the gastric functions is not advisable unless there is atonicity or achylia. In the former case the tincture of nux vomica combined with tincture cinchona is often beneficial. The food should be concentrated and given at intervals of not less than five hours. Wine is good but beer does harm.

The usual treatment for achylia, i. e., pepsin and hydrochloric acid is of service in senile cases.

The intestinal functions should be maintained unimpaired, although constipation in the aged produces less distress and less deleterious results than in younger individuals. This is probably due to the fact that the aged eat less, especially of proteids, and there is less decomposing food waste. As the constipation is caused by atonicity and waste of the intestinal muscular fibres, peristaltic stimulants are required. I have had no results from hormone therapy in two senile cases, and have gone back to sodium choleates, and an occasional dose of aloin. The addition of belladonna is contraindicated, as it allays peristalsis, thereby antagonizing the desired effect of the aloin.

A bland mineral oil, which is not absorbed, aids as a lubricant, and is of service in senile constipation.

Surface elimination can be stimulated by cleanliness and massage, using an animal oil or fat to soften the skin. Most diaphoretics are cardiac depressants.

It would be possible to take each senile organ and tissue and stimulate functional activity. Mental and nervous stimulation is a most important factor in causing a sense of well-being in the aged. We must remember, however, that excessive stimulation hastens degeneration; and, therefore, the moment fatigue sets in stimulation and activity must cease.

There is perhaps no one factor which has a more powerful psychic influence upon the old man than the return of sexual virility, if only for a few moments. This can usually be accomplished by the administration of phosphorus for a week, followed by the use of sounds. Far more effective is sexual intercourse with a young mate. I will not discuss the ethical aspect of such a suggestion; but will remind the reader that the joke about the baldhead at the theatre where there are a number of pretty girls in the chorus has a psychological basis, and that the old man is a changed personality from the moment that he goes a courting a young woman.

In many senile cases, mental stimulation is necessary to prevent mental depression. The mind should be engaged in mild tasks which will keep it occupied and prevent introspection and retrospection. The aged should cultivate simple hobbies, as the care of plants or birds, collecting stamps, coins, picture postals, or similar easily procurable objects which do not require much mental effort. The association with young men and women whose tastes and ways are congenial will keep the mind pleasantly occupied while in their company, and if these young people will avoid references to the older one's age, he will feel that he is still young in spirit and in mind; and he will feel physically rejuvenated. I have seen this repeatedly.

Other measures that stimulate mental activity are light literature, especially by a favorite author, and

favorite works that the individual had perhaps not read in years; light catchy music, old familiar airs, dramatic performances that are not exciting, and have no complicated plot; lectures on subjects in which the aged individual is interested.

At the risk of the harsh judgment of those who place problematic ethics above scientific facts, I will repeat the suggestion that association with the young generally, and intimate relations with a young mate of the opposite sex, will do more to stimulate mental activity, and increase the well-being of the individual than any other measure.

Let me add the words of an aged physician of this city, whose words carry weight:—

"In the post-virile stage of advanced age, sexual desire is the haunting and unbidden fairy of his fancy; ever appearing and re-appearing in sensuous and sensual phantasms; obsessing, never gratifying; he feels miserable and as selfless as a shuttlecock in Cupid's game of battledore. Life's surcease is the only hope for the sufferer.

"Vainly had I tried to borrow
From my books, surcease of sorrow."

103 West 88th Street.

Public Health

Ophthalmia Classes in New York Schools.

The city of New York has been particularly successful in the work done by special classes for the segregation of public school children suffering from infectious eye diseases. This work was begun in October, 1912. A discarded public school building was remodelled and furnished in the most sanitary manner. Two classes, a junior and senior, of mixed grades were established. And here children who would formerly have been excluded from school are transferred without delay. The children still continue their studies although the school hours are shortened and much more attention is given to instructing the child in personal, family and social hygiene than in continuing his grade lessons. The children are required to attend school and it is thus made certain that each child receives the required treatment. The effects upon both the children and their families have been most gratifying.—(*Mod. Hosp.*, June.)

Function of School Nurse.

The following table is of interest in showing the extent to which school nurses are employed in this country:

Division	Cities having systems of medical inspection	Cities employing school nurses	Number of nurses employed
North Atlantic	236	52	261
South Atlantic	23	5	11
South Central	35	4	5
North Central	109	28	114
Western	40	13	24
United States	443	102	415

Her work in general may be summarized as follows:

1. In the school:

(a) Making routine examinations of children to detect those cases which should be referred to the school physician.

(b) Assisting the physician in making physical examinations and recording results.

(c) Acting in emergency cases, such as caring for accidents, bandaging cuts, removing splinters, caring for cases of fainting, convulsions, and the like.

2. In the home:

(a) Explaining to parents the significance of the notices sent by the school physician concerning the condition of their children and aiding the parents in securing remedial action.

(b) Instructing and educating parents in the practices of applied hygiene.

3. In the clinic:

(a) Assisting the physicians in treatments and operations.

(b) Leading the children to view the proceedings of the clinic as diverting experiences rather than terrifying ordeals.

This work had a most gratifying result in New York City, where the number of exclusions from school have been reduced to something like one-thirtieth of their former proportions.—(*Mod. Hosp.*, June, 1915.)

Hygiene in the Field.

The *Medizinische Klinik*, Berlin, states that "among the various measures enforced or contemplated to keep troops in health, it is the plan to repeat the antityphoid inoculation after a five months' interval. Every tuberculosis suspect is sent home, and a careful search is made through the civilian population for consumptives and suspects, and they are isolated in the public hospitals if possible. When this cannot be done they are left in their homes; the homes are placarded and all intercourse with soldiers is prohibited."—(*J. A. M. A.*)

Alcohol and the Public Health.

Dr. S. S. Goldwater, New York city's commissioner of health, has replied to the critics of his announced campaign against alcoholic drink with a statement that seems eminently to justify his position. The duty of his department, he shows, is to guard the health of the people in every possible way. While it has the authority to promulgate certain rules to meet undesirable conditions and emergencies, interference with the drinking habits of the public would be beyond its powers. But it is entrusted with the task of educating the people concerning menaces to their welfare. Publicity regarding the dangers that lurk in adulterated and contaminated milk has prevented much sickness and saved many lives. Preaching the gospel of fresh air and cleanliness has exerted a like salutary effect. The crusade against drug using has greatly benefited the community. These are all recognized as proper subjects for the department's campaign of education. The evils resulting from alcoholic indulgence are equally conceded, and why, therefore, asks Doctor Goldwater, is it not the duty of the officials to lay these facts also before the people? A diminution in the consumption of alcohol, he says, would mean less tuberculosis, less poverty, less dependency, less pressure on hospitals, asylums and jails. Drinking mothers lose twice as many babies as do those who are sober. More alcoholism is found in the parents of feeble-minded children than in the parents of the normal. Alcohol "impairs memory, multiplies industrial accidents, causes chronic disease of the heart, liver, stomach and kidneys, increases the death-rate from pneumonia and lessens natural immunity to infectious diseases."

This indictment is founded on scientific fact. There are those who believe the day will come when health officials generally will combat the drink evil as vigorously as they are now attacking tuberculosis and other scourges of the human race.—(*Pittsburgh Gazette Times.*)

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Progress in the Therapy of Hay Fever.

Gratifying results have been reported of late, notably by Alexander C. Howe, of Brooklyn, from the use of pollen preparations in the treatment of hay fever. In the fall of 1914 Howe was able to treat but a few cases, owing to lateness in collecting the pollen responsible for the anaphylactic phenomena. These cases rapidly cleared up under increasing doses given every other day and it is believed would have cleared up immediately were it not that such small initial doses were given for fear of inducing serious anaphylactic symptoms. Since May of this year Howe has had under pollen treatment a considerable number of cases of the early variety, or "rose cold," and has reported uniformly curative results. All of the cases had had, for years, severe symptoms beginning in May or June and running into the classical autumnal hay fever in the fall, continuing until October, or frost. The treatment usually gave immediately tangible results. A slight local reaction resulted a few times at the puncture point, but no lameness or uncomfortable soreness were complained of. In view of the fact that the autumnal cases treated by Howe in 1914 cleared up rapidly, it would seem that the remedy is equally efficacious in the two varieties, and that the cases treated early this year will not suffer from their autumnal affliction when the time comes, it being altogether probable that the immunization will last that long. However, even if that were not so, it would seem that a remarkably efficacious method of treatment is at our disposal, giving decided relief within twenty-four hours after the initial injection. The prophylactic application of this treatment, which is what should properly be aimed at, requires that injections be given at intervals of two days to two weeks, beginning a month or six weeks before the usual time of the onset of the hay fever attacks. Upon the proper selection, mode of preparation and skilful application of the pollen would seem to depend success. At the present time its use is an art best left in the hands of the expert, for it appears to be one of those things which, like tuberculin, might suffer in repute if improperly applied in the confusion of enthusiastic adoption, before underlying principles are well established.

Tuberculous Infection as a Disease Entity.

There is a good deal of truth in what George Thomas Palmer, of Springfield, Illinois, claims with respect to the part played by latent tuberculosis in the causation of rather obscure illnesses. Many of those who constitute the army of "poor health," and who are supposed to have neurasthenia, digestive disturbances, "natural thinness," malaria, typhoid, exophthalmic goitre, lack of endurance, and other forms of physical deficiency, are really suffering from infection. Palmer holds that as our methods of diagnosis become more accurate these borderland cases will be very frequently recognized, which will mightily change our attitude toward the disease, and perhaps also the attitude of insurance companies. Palmer prophesies that the day will come when with perfection of our diagnostic resources the companies will have rejections which will hopelessly discourage their agents and insurance selling forces. We do not fancy, however, that such new knowledge would greatly alter the present unwittingly liberal policy of these companies, in so far as otherwise good risks are concerned whose mode of living and general social status are good, for we know that the majority of these latent cases do not become frankly tuberculous. In the field of industrial insurance, however, it would seem that the companies would have to guard themselves more rigidly. So far as our own knowledge goees, it is in the lower ranks of the industrially insured that the number of deaths among those recently accepted is inexcusably large.

Palmer is right in emphasizing the very great importance of carefully scrutinizing the never-sick-never-wells, those forever physically inefficient and below par. If, he says, our applicants for "spring tonics," and consumers of patent medicines, were subjected to competent examination, the results would be striking. We are confident that the better class of practitioners are not neglecting this difficult and obscure field, but are constantly adding to their accomplishments and busily engaged in seeing to it that the pre-tuberculous and those with latent lesions are identified and saved, and that without ruthless dislocation of the individual's place in society, and without uselessly and criminally adding to the plague of phthisiophobia.

Homes Versus Institutions.

If there is one thing more than another upon which experts in the care of children are agreed, it is that a pretty fair home is a vastly better place for a child to grow up in than the most palatial institution. This being so, and the care of children a crushing burden upon the private organizations engaged in it on a large scale, why should not the State set about canvassing the homes whose heads would be willing to care for children at the same rates now paid to institutions, such homes to be subjected to regular visitation and grading if found suitable for the reception of children.

At present the adoption of a child through the State Charities Aid Association costs the parties who adopt quite a little—something like fifty dollars. This seems

to us all wrong. The heads of good homes should be paid for their care of children, not "fined" for their civic service.

We are going to pay widows to take care of their own children instead of committing them to institutions. We can go a step farther than this and do vastly more good.

What we now pay to an institution could just as well be paid to a family which has passed the State's test. Therefore no vital economic objection lies against our proposal.

The difficulties now met with in placing out children depend chiefly upon the fact that nothing is paid for the care.

The effect of such a system as outlined upon juvenile health would be most beneficent, and it is upon this basis that we make our plea.

Holidays, Social Hygiene, and the Coming Armament Propaganda.

The suggestion that all commemorative festivals be held on Mondays meets with our unqualified approval on the score of what its application would mean to the public health.

It can readily be seen what an advantage such an arrangement would be to nearly all classes, but particularly to the working class.

Whenever it has happened that a holiday has fallen on a Monday, or on Sunday, necessitating its observation the next day, most people have made much of the opportunity. So that in celebrating all holidays on Mondays we should in all cases gain the advantages now accruing to us but seldom, and then accidentally.

This is an auspicious time to agitate and to secure the adoption of this plan, for later on our militaristic obsessions may block such proposals. With the cessation of war it is not likely that the fountain pen and carpet factories which have been engaged in the manufacture of munitions of war on a large scale will wish to retire from such a lucrative field, and the tremendous capital involved will probably find it easy to "accelerate" an armament propaganda of huge proportions. Then good-bye to holidays of the sort we are projecting. It is a fact that a movie illustrating our "unpreparedness" is in course of preparation. That's all right, but it is not hard to fancy how very far we may be accelerated through emotional appeal carried, with intent, to extreme lengths.

Anti-Vivisection Tracts.

We are in receipt of a large number of pamphlets from the New York Anti-Vivisection Society dealing with the cancer problem, vaccination, "medical freedom," vivisection and cognate matters. The cancer problem has been solved by these writers. It is very simple. Be a vegetarian and you will not contract cancer. Vaccine causes infantile paralysis, tetanus, and streptococcus infection. Most of the vivisection material is the stale and familiar variety, interlarded with sentimentalism. The propaganda is vigorously officered, and must be generously financed.

We cannot, however, forbear the conclusion that some of the propagandists are constitutionally opposed to medicine root and branch. There is an element of fanaticism about them. They would like to sweep away the whole citadel of medical science. They do not hesitate to affirm equal knowledge with professional men, and have challenged legislators to conduct examinations which would show such equality, if not superiority.

These people are not so much concerned about reform as they are about annihilation of the doctors as such.

While not so much a menace as a nuisance, the profession must deal vigorously with these civilian snipers who are obstructing the march of the grand army of preventive medicine. It is inconceivable that the progress of sanitation and hygiene should be stayed by them, even for an instant.

With the continued growth of understanding on the part of the public with respect to medical matters it is to be hoped that the social serum of which these agitators stand in need will be administered in proper dosage, the profession assisting in the inoculation.

One detects but little in these people's literature indicating a wholesome respect for any domain of medical science and art. They must be included among the anti-social elements in the population. There are subtle anarchies as well as blatant ones. Neither should be tolerated when they can be reached. Words should not be minced in characterizing them. The hyphenated "scientists" of the profession who lend aid and comfort to the agitators ought to be disciplined as a first step, for, sad to say, there are such. They are traitors harbored by the medical commonwealth.

Think what it must be like to live with an anti-vivisectionist! It has been our observation that, like other one-idead people, they think and dream and act upon their pet, or rather sole, subject, at all times. The human category knows no worse bore. An anti-vivisectionist with a sense of humor has never been discovered. Does any one know a laboratory cat or dog which challenges greater commiseration than the wife of an anti-vivisectionist?

Night Owls.

Time was when we took some stock in night owls. But we are now "wise to" the people who stay up till all hours, apparently defying the laws of nature in their disregard of the mandates of the sleep god, for we have discovered that the good fellows who start out at eleven P. M. have already had their nap. At some time in the afternoon or evening these roistering blades fall off into dreamland—at hours when other folks are hard at work, or at any rate not sleeping. We have learned that the night owls get as much sleep as anyone else and are quite healthy. The exceptions, and they are few, suffer in health. He is a feeble-minded fool whom the world is well rid of who actually disregards sleep requirements.

Another kind of liar is the patient who insists that he goes for whole weeks without sleep, or that he sleeps only three or four hours a night over long stretches of time. His friends and relatives are more credible witnesses on this point, and almost invariably the lie is given to the victim of alleged continuous insomnia. Order such a man not to go to bed and he develops a great somnolence. Or let him serve on a late jury, or sit up with a sick friend, and he is cured.

The best cure for these folks is to tell them to sit up all night, so long as they don't sleep. Then they will soon tell you that they are sleeping all right.

An idiotic tradition concerns trained nurses. It is actually a fact that some of the people who employ them fancy that the "trained" part of the title refers to the ability to work long hours without sleep. It is said that a certain rich family in New York presents the graduating class at Bellevue pins upon which, in relief, beside the hospital's monogram and the date, is a tiny pelican. It is said that the pelican sleeps with one eye open and is always on guard. Not only is such a notion hard to beat for sheer idiocy, but it has been

the cause of grievous exploitation of the human beings who have happened to be nurses.

There ain't no sich animale as the person who does not need sleep, or who does not get it.

Health Department Activities.

We have been much gratified by the recent unwonted activities of the Health Department in the drastic regulation of all kinds of insanitary practices and in the enforced education of the offenders, as in the case of the soft drink peddlers and their saliva tanks for the washing of glasses. Even such things as cigar cutters in the shops have come under the ban. Many men put cigars between their lips before sticking them into the cutters. So also in the Department's relation to child labor and to industrial disease, and in its crusade against the abuse of alcohol, does it find great and perfectly legitimate use for its energies. Indeed, it would seem that the Health Department, at the present time, is concentrating more of its energies, beyond what might be called its regular functions, upon a legion of matters sadly in need of attention than upon socialistic schemes which disgust the medical profession and an independent citizenry. We take it that the detection of sophisticated ice-cream cones and the prosecution of their makers is the kind of thing the people expect our health authorities to engage in. The recent change in policy is most gratifying. We hope that the last has been heard of medical socialization of the profession and public.

But why does the Health Department *treat* disease?

American Work in Preventing Disease.

"Among the brightest pages of the history of American medicine are those recording the work of American scientists on the part played by insects in the transmission of disease. The foundation of the later work on the transmission of disease was laid by Theobald Smith in his work on the transmission of Texas fever of cattle by the tick. That pioneer work opened up and laid the foundation for practically all the subsequent work by others, both in the United States and abroad, in this important branch of medical science.

"Since then other insect-borne diseases have been added to the list by American scientists—yellow fever through the work of Reid, Carroll, Lazear and Agramonte; Rocky Mountain spotted fever by Ricketts, King and McClintic; typhus by Anderson and Goldberger, Ricketts and Wilder; plague by McCoy, and anthrax by Mitzmain.

"By applying the principles determined from a consideration of the work of these investigators to the control of different diseases," says *The Journal A. M. A.*, many of them have been brought under control or have been practically eradicated from this country. By the application of measures based on the part played by the tick in the transmission of Texas fever of cattle the area of infection has been greatly reduced and each year sees it still further limited.

"Since the brilliant campaign of the Public Health Service, under the leadership of White, in New Orleans in 1905 the South has lost its terror of a yellow fever epidemic. Outbreaks of bubonic plague are quickly brought under control by giving attention to the part of the rodent and the flea.

Bacon estimates that between 44,000 and 48,000 women of the child-bearing age die of tuberculosis every year in the United States.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Benjamin Franklin's Medical Wisdom.

Franklin seems to have been greatly interested in medicine, and wrote a good deal that would have done credit to the more skilful physicians of his day. Attention has recently been called to his great service in behalf of sanitation by writers in the *Journal of the American Medical Association* and by the lay press. To his versatile genius we owe the bifocal spectacles and the hammock bath. We are prompted to reprint his article on the gout. What he has to say in it applies with much force to the people of to-day who move about in automobiles, overstoke the alimentary furnace, and in other ways invite metabolic diseases much as did the victims of the gout in Franklin's own time.

Dialogue Between Benjamin Franklin and the Gout, Written by Him During One of His Stays at Passy.

Midnight, Oct. 22, 1780.

Franklin—Eh! oh! eh! What have I done to merit these cruel sufferings?

Gout—Many things: You have ate and drunk too freely and too much indulged those legs of yours in their indolence.

Franklin—Who is it that accuses me?

Gout—It is I, even I, the Gout.

Franklin—What? My enemy in person?

Gout—No, not your enemy.

Franklin—I repeat it—my enemy; for you would not only torment my body to death, but ruin my good name; you reproach me as a glutton and a tippler; now all the world, that knows me, will allow that I am neither the one nor the other.

Gout—The world may think as it pleases; it is always very complacent to itself and sometimes to its friends; but I very well know that the quantity of meat and drink proper for a man who takes a reasonable degree of exercise would be too much for another who never takes any.

Franklin—I take—eh! oh!—as much exercise—eh!—as I can, Madam Gout. You know my sedentary state, and on that account it would seem, Madam Gout, as if you might spare me a little, seeing it is not altogether my fault.

Gout—Not a jot; your rhetoric and your politeness are thrown away; your apology avails nothing. If your situation in life is a sedentary one, your amusements, your recreations, at least should be active. You ought to walk or ride, or if the weather prevents that, play at billiards. While the mornings are long and you have leisure to go abroad, what do you do? Why, instead of gaining an appetite for breakfast by salutary exercise, you amuse yourself with books, pamphlets, or newspapers which commonly are not worth reading. Yet you eat an inordinate breakfast—four dishes of tea with cream and one or two buttered toasts, with slices of hung beef, which, I fancy, are not things the most easily digested. Immediately afterward you sit down to write at your desk or converse with persons who apply to you on business. Thus the time passes till one without any kind of bodily exercise, but all this I could pardon, in regard, as you say, to your sedentary condition. But what is your practice after dinner? Walking in the beautiful gardens of those friends with whom you have dined would be the choice of a man of sense; yours is to be fixed down to chess, where you are found engaged for two or three hours. This is your perpetual recreation, which is the least eligible of any for a sedentary man, because instead of accelerating the motion of the fluids the rigid attention it requires helps to retard the circulation and obstruct internal secretions. Wrapt in the speculations of this wretched game you destroy your constitution. What can be expected from such a course of living but a body replete with stagnant humors, ready to fall a prey to all kinds of dangerous maladies, if I, the Gout, did not occasionally bring you relief by agitating those humors and so purifying or dissipating them? If it was in some nook or alley in Paris, deprived of walks, that you played a while at chess after dinner, this might be excusable; but the same taste prevails with you in Passy, Auteuil, Montmarte, or Sanoy—places where there are the finest gardens and walks, a pure air, beautiful women, and most agreeable and instructive conversation; all of which you might enjoy by frequenting the walks. But these are rejected for this abominable game of chess. Fie then, Mr. Franklin! But amid my instructions I had almost forgot my wholesome corrections, so take that twinge—and that!

Franklin—Oh! eh! oh! oh-h! As much instruction as you please, Madam Gout, and as many reproaches; but pray, madam, a truce with your corrections!

Gout—No, sir, no. I will not abate a particle of what is so much for your good; therefore——

Franklin—Oh! eh-h-h! It is not fair to say I take no exercise, when I do very often, going out to dine and returning in my carriage.

Gout—That, of all imaginable exercises, is the most slight and insignificant, if you allude to the motion of a carriage suspended on springs. By observing the degree of heat obtained by different kinds of motion, we may form an estimate of the quantity of exercise given by each. Thus, for example, if you turn out to walk in winter with cold feet, in an hour's time you will be in a glow all over; ride on horseback, the same effect will scarcely be perceived by four hours' round trotting; but if you loll in a carriage, such as you have mentioned, you may travel all day, and gladly enter the last inn to warm your feet by the fire. Flatter yourself, then, no longer that half an hour's airing in your carriage deserves the name of exercise. Providence has appointed few to roll in carriages, while he has given to all a pair of legs, which are machines infinitely more commodious and serviceable. Be grateful, then, and make a proper use of yours. Would you know how they forward the circulation of your fluids in the very action of transporting you from place to place, observe, when you walk, that all your weight is alternately thrown from one leg to the other; this occasions a great pressure on the vessels of the foot and repels their contents; when relieved, by the weight of being thrown on the other foot, the vessels of the first are allowed to replenish, and by a return of this weight this repulsion again succeeds; thus accelerating the circulation of the blood. The heat produced in any given time depends on the degree of this acceleration; the fluids are shaken, the humors alternated, the secretions facilitated, and all goes well; the cheeks are ruddy and health is established. Behold your fair friend at Auteuil, a lady who received from bounteous nature more really useful science than half a dozen such pretenders to philosophy as you have been able to extract from all your books. When she honors you with a visit it is on foot. She walks all hours of the day and leaves indolence and its concomitant maladies to be endured by her horses. In this see at once the preservative of her health and personal charms. But when you go to Auteuil you must have your carriage, though it is no further from Passy to Auteuil than from Auteuil to Passy.

Franklin—Your reasonings grow very tiresome.

Gout—I stand corrected. I will be silent and continue my office; take that, and that.

Franklin—Oh! oh! Talk on, I pray you!

Gout—No, no. I have a good number of twinges for you to-night, and you may be sure of some more to-morrow.

Franklin—What, with such a fever! I shall go distracted. Oh! eh! Can no one bear it for me?

Gout—Ask that of your horses; they have served you faithfully.

Franklin—How can you so cruelly sport with my torments?

Gout—Sport! I am very serious. I have here a list of offenses against your own health distinctly written, and can justify every stroke inflicted on you.

Franklin—Read it then.

Gout—It is too long a detail, but I will briefly mention some particulars.

Franklin—Proceed. I am all attention.

Gout—Do you remember how often you have promised yourself the following morning a walk in the Grove of Boulogne, in the Garden of de la Muette, or in your own garden, and have violated your promise, alleging at one time it was too cold, at another too warm, too windy, too moist, or whatever you please, when in truth it was to nothing but your inseparable love of ease?

Franklin—That, I confess, may have happened occasionally, probably ten times in a year.

Gout—Your confession is very far short of the truth; the gross amount is one hundred and ninety-nine times.

Franklin—Is it possible?

Gout—So possible that it is fact; you may rely on the accuracy of my statement. You know M. Brillon's gardens and what fine walks they contain; you know the handsome flight of one hundred steps which lead from the terrace above to the lawn below. You have been in the practice of visiting this amiable family twice a week after dinner, and it is a maxim of your own that "a man may take as much exercise in walking a mile, up and down stairs, as in ten on level ground." What an opportunity was here for you have had exercise in both those ways! Did you embrace it and how often?

Franklin—I cannot immediately answer that question.

Gout—I will do it for you. Not once.

Franklin—Not once?

Gout—Even so. During the summer you went there at six o'clock. You found the charming lady, with her lovely children and friends, eager to walk with you and entertain you with their agreeable conversation; and what has been your choice? Why, to sit on the terrace, satisfy yourself with the fine prospect, and passing your eye over the beauties of the garden below, without taking one step to descend and walk about in them. On the contrary you call for tea and the chess board; and lo! you are occupied in your seat till nine o'clock, and that besides two hours' play after dinner; and then, instead of walking home, which would have disturbed you a little, you step into your carriage. How absurd to suppose that all this carelessness can be reconcilable with health without my interposition!

Franklin—I am convinced now of the justice of Poor Richard's remark that "Our debts and our sins are always greater than we think for."

Gout—So it is. You philosophers are sages in your maxims and fools in your conduct.

Franklin—But do you charge among my crimes that I return in the carriage from M. Brillon's?

Gout—Certainly; for having been seated all the while, you cannot object the fatigue of the day, and cannot want, therefore, the relief of a carriage.

Franklin—What, then, would you have me do with my carriage?

Gout—Burn it if you choose; you would at least get heat out of it once in this way; or, if you dislike that proposal, here's another for you: Observe the poor peasants who work in the vineyards and grounds about the villages of Passy, Auteuil, Chaillot, &c.; you may find every day among these deserving creatures four or five old men and women, bent and perhaps crippled by weight of years and too long and too great labor. After a most fatiguing day these people have to trudge a mile or two to their smoky huts. Order your coachman to set them down. This is an act that will be good for your soul; and at the same time after your visit to the Brillons, if you return on foot, that will be good for your body.

Franklin—Ah! How tiresome you are!

Gout—Well, then, to my office; it should not be forgotten that I am your physician. There!

Franklin—Oh-h-h! What a devil of a physician!

Gout—How ungrateful you are to say so! Is it not I who, in the character of your physician, have saved you from the palsy, dropsy, and apoplexy, one or other of which would have done for you long ago but for me?

Franklin—I submit and thank you for the past, but entreat the discontinuance of your visits for the future; for in my mind one had better die than be cured so dolefully. Permit me just to hint that I have also not been unfriendly to you. I never feed a physician or quack of any kind to enter the list against you; if, then, you do not leave me to my repose, it may be said you are ungrateful, too.

Gout—I can scarcely acknowledge that as an objection. As to quacks, I despise them; they may kill you, indeed, but cannot injure me. And as to regular physicians, they are at last convinced that the gout, in such a subject as you are, is no disease, but a remedy; and wherefore cure a remedy? But to our business; there!

Franklin—Oh! oh! for heaven's sake leave me, and I promise faithfully nevermore to play at chess, but to take exercise daily and live temperately.

Gout—I know you too well. You promise fair, but after a few months of good health you will return to your old habits; your fine promises will be forgotten like the forms of the last year's clouds. Let us, then, finish the account, and I will go. But I leave you with an assurance of visiting you again at a proper time and place; for my object is your good, and you are sensible now that I am your real friend.

Psoriasis.

E. D. Holland, Hot Springs, Ark., reports three cases of psoriasis, treated by vaccines with success. The first patient had developed tonsillitis and bronchitis, during which the psoriasis seemed to suggest to him that it might be in this case an infection. He therefore made an autogenous vaccine from a culture from the tonsils and ceased treating the stomach, which he had begun some five weeks before. In two weeks after the use of vaccines, the psoriasis had entirely cleared up. Eight months later, the patient reported it had not reappeared. The other two cases were treated with a mixed vaccine of streptococcus, staphylococcus and *Micrococcus catarrhalis*, with similar results.—(*J. A. M. A.*)

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

THERAPEUTIC METHODS.*

JAMES KRAUSS, M. D.,
Boston.

The subject of therapeutic methods takes us to the fundaments of medicine, to the basic ways in which we practise and ought to practise medicine.

We shall not consider the impersonal police medicine of the public sanitarian, but the direct personal medicine of the individual practising physician, the art of healing or helping the sick with hygienic measures, surgical procedures and medicinal substances, the art of therapeutics which takes the physician at once to the aching bodies of his patients and calls upon him for the immediate exercise of his best therapeutic knowledge, judgment and skill. For the attainment of the utmost skill and for the best choice of our therapeutic applications, we require a precise knowledge of the basic methods underlying the possible scientific applications in medicine. We shall consider the more or less temporary applications of medicine, in which we must include hygiene and surgery as well as medicine proper, merely to discover and thus to illustrate, for our better understanding, what therapeutic relationship there may exist between diseases and hygienic, surgical and medicinal remedies, for our greatest interest is in arriving at a correct knowledge of the basic therapeutic methods of scientific medicine in order that we may know how we practise and how we are best to practise the art of medicine scientifically.

It goes almost without saying that, as scientific physicians, our first attention must always be directed to the hygiene of the patient, and this for two reasons: first, because we may thus ascertain how much, if at all, the ordinary hygiene of the patient is at fault and at once proceed to rectify it, as the beginning of all necessary treatment; and secondly, because we then have the first means of knowing how far the hygienic requirements of the diseased human organism will be met with the psysiologic ingredients which we may decide to employ in the course of treatment.

Whatever may be the fault of hygiene,—physical or chemical, thermic, mechanic, electric; in light and air, surrounding temperature, muscular exercise, nutrition: in the aortic, pulmonary, portal circulations; in the respiratory function and capacity; in the alimentary function with the assimilative and disassimilative processes of metabolism, the ingestion, digestion, egestion of proteins, carbohydrates and fats, mastication and salivation, deglutition and peristalsis, chymification and chylification, absorption and fermentation of peptones, sugars and fats, production of lymph and blood, calorification and energy, body growth and weight, urinary secretion and micturition; in the tactile, visual, auditory, olfactory and gustatory sensations, perceptions, associations, emotions, motions, locomotions, productive and reproductive, throughout childhood, puberty, adolercence, maturity, climacteric, senility,—we may measure the fault and estimate it quantitatively.

Whatever may be the fault of hygiene, it must appear to us as an excess or a deficiency or a perversion of physiologic elements working in the patient's body and, consciously or unconsciously we proceed to subtract from what is in excess, we proceed to add to what is in deficiency, we proceed to revert into normal channels what has been perverted from them. It is plain that when a patient sickens from an excess of food and we cut down the quantity of his food, we subtract. When a patient sickens from improper food, we subtract if the impropriety consists of an excess of nitrogenous, caloric or psychic food values, and we add if the impropriety consists of an insufficiency of these values. When a patient suffers from faulty aeration, from elevation, latitude, soil, temperature, humidity, sunlight, seasons, winds, any excess or defect of air or climate, we place him, as a matter of course, where he is not exposed to such excess or defect. We decrease the activity of his heatmaking powers when overproductive and subtract a part of the heat which he has in excess. We increase the activity of his heatmaking powers when abeyant and add a quantity of heat to that which he already has. This is what we do even when we pass beyond the normal physiologic elements of nutrition, respiration, muscular exercise, of climate, air and water, and make use of electricity, light as a whole or the various light rays, chemical rays, *x*-rays, radium and radium emanations as our media for the production or abstraction of heat. Likewise, when we direct the weak, suggest to the impressionable, discipline the wayward, inform the ignorant, cheer the falling, sympathize with the bereft and loving, we add to and subtract from the physiologic elements of mentality that happen to be in deficiency or in excess, and we revert whatever is perverted in the bodily and mental mechanism of the patient.

Whether we have measured exactly or not exactly the physiologic elements at fault, we are finding ourselves adapting computable physical and chemical elements of physiology to the normal hygienic requirements of our patients. We calculate mathematically and compare quantitatively known and knowable masses of proteins, carbohydrates and fats; known and knowable masses of nitrogenous, caloric, psychic food values; known and knowable masses of oxygenating factors of somatic and psychic nutrition, heat, energy in aeration, climatic elevation, latitude, soil, temperature, humidity, sunlight, seasons, winds. Our basic methods in scientific hygienic therapeutics are mathematical addition, subtraction, reversion or rearrangement of physiologic ingredients for the normal, hygienic requirements of our patients.

In surgical therapeutics, we are likewise dealing with demonstrable, known and knowable, elements permitting quantitative therapeutic methods of comparison. We are dealing with demonstrable solutions of continuity in wounds, fractures, dislocations, deformities; with demonstrable new growths in tumors; with demonstrable necroses in dystrophies, suppurations, ulcerations. We are dealing with demonstrable anatomic conditions and mechanical processes. The mechanical elements of structure and function are precisely and quantitatively ascertainable as excessive or deficient or perverted in the topic, plastic, trophic, toxic disorders and diseases requiring surgical treatment, and, as soon as recognized, we proceed, consciously or unconsciously, to overcome a mechanical defect by mechanical addition, a mechanical excess by mechanical subtraction, a mechanical perversion by mechanical reversion or rearrangement.

When we suture the lips of wounds, we add. When

* Read before the public session of the Sixth Annual Meeting of the American Association of Clinical Research at Baltimore, November 5, 1914.

we place fractured fragments of bone in apposition, we add. When we reduce dislocations, we subtract. When we reconstruct deformed parts, we revert perverted structures. When we excise tumors, we subtract. When we resect necrotic tissues, we subtract. When we amputate gangrenous limbs, we subtract. When we drain infected parts, we subtract. In surgery we add, subtract, revert or rearrange mechanically disarranged structures and functions of the human organism. As in hygiene, so in surgery, we are finding ourselves adapting computable elements to the normal requirements of our patients: in hygiene, physiologic elements; in surgery, anatomic elements. The methods of surgery are anatomic, mechanical. They are based upon the quantitative comparison of known and knowable masses of tissues, anatomic or mechanical elements of structures and functions. Our basic method in scientific surgical therapeutics are surgical addition, subtraction, reversion or rearrangement of anatomic elements for the normal mechanical requirements of our patients.

Hygienic treatment adjusts the physiologic elements to the requirements of the patient. Surgical treatment adjusts the anatomic elements to the requirements of the patient. Without additional treatment affecting the vital elements of structure and function which permit neither of mathematical computation nor of gross mechanical manipulation, the human organism is left to itself for recovery. The entire recovery from disease which is the end of scientific therapeutics is not always possible; we may say that it is most frequently impossible after mere hygienic and surgical treatments. Additional medicinal therapeutics is necessary after we have instituted hygienic measures for the correction of physiologic disorders and after we have subjected our patients to surgical procedures for demonstrable anatomic lesions and mechanical disorders. Medicinal therapeutics is indicated when we are not called upon to deal with internal hygienic elements of physiology capable of more or less mathematical computation or with apparent mechanical elements of anatomy capable of mechanical adjustment and readjustment. Medicinal therapeutics is called upon to deal with elements of pathology, the more or less indefinite symptoms and signs of disordered and diseased structures and functions, elements which are not reducible to quantitative proportions of physiologic ingredients necessary to hygiene or of anatomic elements necessary to structural and functional mechanics.

In the fifteenth edition of perhaps the most popular American text book on therapeutics, we may read that "this is the era of therapeutic rationalism, when remedies are given not because they are recommended by, or said to be valuable by, some authority, but because their use appeals to the medical man who has a knowledge of the physiological, pathological, and therapeutic problems to be faced, and can, therefore, judge for himself what remedy is best suited to a given case when he is informed how it acts." The therapeutic problems are these: The problem for hygienic therapeutics is to remove excess, defects, perversions of normal physiologic ingredients. The problem for surgical therapeutics is to remove excesses, defects, perversions of anatomic elements. The problem for medicinal therapeutics is to remove the diseased alterations, the symptoms and signs of diseases, which cannot be removed by hygienic measures or surgical procedures. The results is that we have empiric, theoretic, and scientific methods of medication. Of these, empiric medication, depending on trial and recommendation, may be dismissed in this era of therapeutic rationalism as unscientific since it has nothing to impart that can assure successful repetition. The problematic unorganized experience of individual medical empiricists cannot enable us to draw unerring conclusions and to forsee effects. We must consider then the methods of theoretic and scientific medications.

Scientific medicine makes its appeal to the scientific mind with scientific facts. Its practice is the conduct of scientific experimentation. The experimental relationship upon which the conditions of experimental causation are to be arranged is given in the method. The experimental conditions of causation are given in the facts of the patient, the symptoms and the signs of disease, and in the facts of the drug, the medicinal properties of the remedy we give to the patient. The experimental effect aimed at. the relief or cure of our patient, appears if the conditions of causation are correctly arranged as our experimental method requires.

The practice of scientific medicine is based upon proved knowledge, upon known or knowable facts, facts which have been demonstrated or may be demonstrated. The practice of theoretic medicine is based on theoretic knowledge, upon assumptions, not upon demonstrated or demonstrable facts. It goes without saying that, in this era of therapeutic rationalism theoretic medication has no more justification than empiric medication. Only scientific medication has real justification, and scientific medication carries its appeal to a medical man, not through a whimsical or theoretic knowledge of his medicines but through his knowledge of the actual properties with which his medicines are endowed.

The mere use, enumeration, observation or experience with drug remedies is not sufficient for scientific practice. Nothing short of knowledge of the actual inherent properties of remedies can do. It was well enough in the Middle Ages to produce purgation, emesis, diaphoresis, diuresis in order to restrain excessive crises; to use counterirritants, alteratives, stimulants to rouse suffering natures from their slumber. It may be well enough at the present time for theoretic medication to call up "laws" of immunity to strengthen the reactive powers of diseased tissues. The whole history of medicine, in empiric, theoretic. scientific medications, however, bears overwhelming witness to this engrossing fact: that drugs affect the human organism both in sickness and in health; and in this era of therapeutic rationalism, nothing less than the knowledge how drugs affect the human organism can serve for scientific medication.

Scientific medication depends on exact knowledge ot the action of medicines for the possible comparison of their action in patients with the action of diseases. For scientific medication, we must be able to bring disease elements and medicinal elements within the scientific categories of observation, comparison, and therapeutic adaptation, just as we are able to bring disease elements and physiologic elements within the scientic categories of observation, comparison, and therapeutic adaptation for scientific hygiene, and as we are able to bring disease elements and anatomic elements within the scientific categories of observation, comparison, and therapeutic adaptation for scientific surgery. What we have been able to do in hygiene and surgery, to place physiologic and anatomic elements together as quantitative facts of physiologic and anatomic masses, we cannot scientifically do in medicine proper. Medicines, in most instances, do not enter into the normal composition of the body. They act as

foreign agents and when as such they enter the human organism they have a distinctive power of altering the structures and functions of the organism. It is through these distinctive structural and functional alterations of the human organism that we best learn the actual properties, the inherent qualities of drug remedies. To do, in scientific medicine, what we have learned to do quantitatively in scientific hygiene and surgery, we must place disease elements and medicinal elements together, not in the impossible categories of quantitative facts of mass or content, but in the only possible categories of qualitative facts of causation.

For scientific medicinal therapeutics, we must have irrefutable qualitative facts of the power of medicines. Without such facts we cannot employ medicines scientifically, for scientific medicinal therapeutics consists in bringing into proved experimental relationships of relief or cure the facts or phenomena of the diseases that are to be removed and the facts or phenomena of the medicines that are to remove the diseases. As soon as we find ourselves in possession of the actual qualitative facts of the power of medicines, we find ourselves also in possession of the integral methods of scientific medicinal therapeutics. Medicines either affect the same parts of the organism as are affected by a particular disease and then their effects upon the organism may be similar or contrary to the effects produced by the disease, or medicines affect contiguous or remote parts rather than those that are affected by the disease and then the effects upon the organism must be dissimilar to the effects produced by the disease. All scientific medical men must admit, and will admit, that it is preferable to attempt to relieve a diseased part by affecting the diseased part, rather than to attempt to relieve a diseased part by affecting a healthy part, although it must be said that all three methods of scientific medicinal therapeutics have their correspondingly proper use in the medicinal treatment of diseases. The eliminative medicinal treatment of diseases depends upon the qualitative method of bringing contiguous symptomcomplexes of disease and drug into therapeutic relationship: The basic method is that of symptomdissimilarity. The symptomatic medicinal treatment of diseases depends upon the qualitative method of bringing contrary symptomcomplexes of disease and drug into therapeutic relationship: The basic method is that of symptomcontrariety. The radical medicinal treatment of diseases depends upon the qualitative method of bringing similar symptomcomplexes of disease and drug into therapeutic relationship: The basic method is that of symptomsimilarity. There are no other methods of scientific medicinal therapeutics, and scientific medicinal therapeutics is not complete without these three methods.

The understanding of what therapeutics comprehends and what basic methods we have at our disposal for the comprehensive practice of scientific therapeutics is the most important knowledge to be acquired by the physician. Therapeutic methods are abstract ultimates underlying therapeutic applications to pathologic facts, bridges that cross from one set of facts to another set of facts,—in scientific hygienic therapeutics, from a set of physiologic facts of hygiene to a set of pathologic facts of faulty hygiene; in scientific surgical therapeutics, from a set of anatomic facts of normal structures and functions to a set of pathologic facts of mechanically faulty structures and functions; in scientific medicinal therapeutics, from a set of symptom facts of medicines to a set of symptom facts of diseased patients.

The quantitative methods of addition and subtraction and reversion of physiologic elements are to be used in scientific hygienic therapeutics. The mechanical methods of addition and subtraction and reversion of anatomic elements are to be used in scientific surgical therapeutics. The qualitative methods of similarity, contrast and contiguity of pathologic elements are to be used in scientific medicinal therapeutics.

To bring this knowledge in incontrovertible form to the practising physicians in this world of suffering is only one, though not the least one, of the important matters that the American Association of Clinical Research has set for its tasks.

419 Boylston Street.

American Association of Clinical Research.

Seventh Annual Meeting, September 23, 24, 25, 1915, at Philadelphia, Pennsylvania.

Headquarters: Hotel Walton, Broad and Locust Sts.
Sessions: Hahnemann Medical College Rooms, 220-224 North Broad St.

The use of the college auditoriums and equipment has been generously placed at our disposal by Dean William A. Pearson, the eminent chemist.

1. Opening Address by the President: Progress Already Made in Medicine and a Few Things Hoped for:
   Jefferson D. Gibson, M. D., Denver, Colo.
2. Public Health: Physical Examination of Indoor Workers:
   Roger M. Griswold, M. D., Kensington, Conn.
3. Blood Pressure: Some Clinical Observations:
   F. C. Askenstedt, M. D., Louisville, Ky.
4. Biochemical Problems:
   W. J. Lenz, M. D., Castleton Corners, N. Y.
5. Cancer Subjected to Surgical Ionization: A Clinical Study of 529 Cases:
   G. Betton Massey, M. D., Philadelphia, Pa.
6. Carcinoma: Experimental Etiologic Investigations: Summary of Facts Elicited:
   Harold Wilbert Nowell, M. D., Boston, Mass.
7. Cancer of the Urinary Bladder: Diagnostic Researches: Stereoscopic Illustrations:
   Leon T. Ashcraft, M. D., Philadelphia, Pa.
8. Lupus: Dr. D. Genesee, Baltimore, Md.
9. Beri-Beri:
   G. B. B. Larkeque, M. D., Brooklyn, N. Y.
10. The X-Ray in Exophthalmic Goitre:
    J. F. Herrick, M. D., Ottumwa, Ia.
11. The Prolonged Use of the Roentgen Ray:
    Arthur W. Yale, M. D., Philadelphia, Pa.
12. Static Electricity: Its Uses in Medicine:
    Wm. Benham Snow, M. D., New York
13. Mechanical Vibration: Its Uses in Medicine:
    Mary L. H. Arnold Snow, M. D., New York
14. Effect of Spinal Adjustment on Toxaemia:
    Dr. R. Kendrick Smith, Boston, Mass.
15. The Fluoroscopic Screen and the Radiographic Plate in Diagnosis of Medical and Surgical Lesions of the Gastro-Intestinal Tract—Stereopticon Illustrations:
    C. Winfield Perkins, M. D., New York
16. Proctologic Researches: Office and Hospital:
    F. H. Williams, M. D., Boston, Mass.
17. Pruritus Ani, Vulvae, Scroti: Etiology and Successful Treatment:
    Orlando R. von Bonnewitz, M. D., New York
18. Research Work with Radium: Some Practical Points:
    John M. Craig, M. D., Philadelphia, Pa.

19. Some Research Problems in Medicinal Therapeutics: W. E. Reily, M. D., Fulton, Mo.
20. Some New Studies of Drug Addictions and Their Treatment:
T. D. Crothers, M. D., Hartford, Conn.
21. The Proper Use of Drugs:
Daniel E. S. Coleman, M. D., New York, N. Y.
22. The Inadequacy of Present Diagnostic Methods:
Philip Rice, M. D., San Francisco, Cal.
23. The Value of Constitutional Landmarks in Clinical Diagnosis:
J. Gutman, M. D., Brooklyn, N. Y.
24. Diagnosis of Latent Tuberculosis by Means of the Gamma Rays and the Thermometer:
A. J. Wright, M. D., Akron, O.
25. Tuberculosis: A Report of Several Hundred Cases:
Jefferson D. Gibson, M. D., Denver, Colo.
26. An Interesting Case of Gunshot Wound of the Head: Illustrations:
George W. Mackenzie, M. D., Philadelphia
27. The Radical Mastoid Operation: Diagnostic and Therapeutic Indications: Stereoscopic Illustrations:
Gilbert J. Palen, M. D., Philadelphia, Pa.
28. Lithopedion: Specimen:
Grover Phillips, M. D., Denver, Colo.
29. Caesarian Section: A Series: A Plea for the Classical Operation:
Alonzo J. Shadman, M. D., Boston, Mass.
30. Some Results from Ovarian Implantation in the Uterine Cornua:
G. L. Monson, M. D., Denver, Colo.
31. Scientific Medicine versus Speculative Medicine:
James Krauss, M. D., Boston, Mass.
32. Other Papers. Banquet.

Members and guests are urged to be present on Thursday morning and to stay throughout Saturday, prepared to respond to the call of the president at any time during the sessions, irrespective of the order here given.

Applications for membership will be received by the permanent secretary, James Krauss, M. D., 419 Boylston street, Boston, Mass.

Surgery of the Spleen.

Four cases of splenic surgery are reported by E. M. Prince, Birmingham, Ala., on account of the rarity of such case reports. Two were of abscess of the spleen, both relieved, and the third one was splenic anemia in a frail woman, a case which had been considered inoperable. The very large spleen was removed, however, after she had returned when she was in somewhat better condition. The blood picture after operation was interesting, the most striking feature being the large proportion of eosinophils, which suggested Hodgkins' disease. The clinical history, however, together with the absence of glandular enlargement elsewhere, the increase in the fibrous element, and the absence of endothelial growth point to the splenomegaly of Banti's disease. The fourth case was also spleenic anemia and diagnosed as Banti's disease. The spleen weighed 56 ounces, and the blood picture was somewhat similar to the other.—(*J. A. M. A.*)

Syphilis of the lung occurs more frequently than has been supposed, but as a rule, it is confounded with pulmonary tuberculosis. The possibility of error is augmented by the fact that syphilis and tuberculosis may occur at the same time in the same subject.

Correspondence

"In War Time."

To the Editor of THE MEDICAL TIMES:

If "these be the days that try men's souls" in England, they are, as well, the days when the "medispacialist" is in clover. The "medispacialist" is not exclusively an English product, although the name is one that is peculiar to England, especially to London, and particularly to newspaper offices. Primarily, it plays on the term "medical specialist," that term which has made rapid growth since the days when Lord Roseberry, advising by Her Majesty's gracious permission, commended to Emperor Frederick the distinguished "medical specialist in diseases of the larynx." Of late years the genus has increased both legitimately and otherwise; and it is the kind that is alleged to be the illegitimate variety that has had bestowed on it the distinct nickname. By definition it is the "charlatan" or "empiric" (and sometimes, more rudely, the "quack") who pretends to be a "spacialist," and by virtue of using printer's ink to make his pretensions, occupies newspaper space. Hence, he is the "medical spacialist," or in the language of the advertising management, the "medispacialist."

Just now he is in the papers in full force and large variety. He is right up to the times, and takes from a half-column to a half-page to express himself, his "treatment," or his "system." Perhaps at the fore at present is the class that does the "nerve insulation" trick. These are the "spacialists who maintain that the war news tries the nerves (not soul) of the people, and most of all, the nerves of those who have relatives and friends in the service. The argument is that as the nervous system is liable at any time to be put to strain, it is wise to so insulate the nerves that they will "stand" it. Of course it is both prophylactic and curative. Stress is placed on the extreme liability to hear bad news any day, and to protect against it. Corollary, it is worth mentioning that the news having come, the "nerve insulation" should take place, to obviate the effect of the news. The "method" is necessarily a profound secret; but in its use the patient is given "physical culture," and "mental training," together with a "course" of salts and senna, and a taste of "hygienic control."

Of allied breed is the "fit spacialist." He is not of that kind of which we used to hear, the fellow who was "good for fits," and whose boasted scheme was to "throw" other disorders into epileptic form, and then to "throw" the epilepsy or epileptoid derangement "out." In England it is the custom to borrow the race-track expression, and to speak of a person who is in fine physical condition as being "fit." The soldier or sailor, who, writing home, says that he is "fit," is understood as being that which we on this side would call "all right." In order to enter the service he must be "fit": and here is where the "fitter" comes in. This "spacialist" is a "muldoonatic" party, strong on "physical culture," vibration, massage, and the "praxies." He advertises simply to "make fit" for the service or for anything else. He has a "system of specifically applied physical movements," and by it he "puts the organism into rhythm." There is a "free book" to impress the "subject," and in it one is "shown whether he is fit or not by this simple experiment: Place the right leg loosely across the left knee, when on tapping it sharply at the knee just below the knee-cap, if there is no jerk, the nerves are out of order." The slogan is, "Watch for the jerk!" This is capable of at least two interpretations! The one who is made "fit" by the treatment,

has to have a purse the strings of which do not fit tightly.

A variety of the "fitter" is the "fixer." He is a dentist, and advertises that he treats volunteers who would not be accepted to service because of their defective teeth. One enterprising "spacialist" declares that he has been "the means of having hundreds accepted," and says that he "perfected himself in this specialty in America."

The "Blue Cross spacialist" is a "vet." He advertises to "help horses in time of war," and proclaims the patronage of a "Rt. Hon. Earl." There are "Blue Cross" hospitals in France and Flanders, but the Londoner teaches that he has "certain ear-caps" for horses, and "medicated head fringes." These ear-caps "deaden the otherwise trying sounds of warfare," and the fringes are of the "electric belt" contrivance, and warranted to make the horses "fit." One "Blue Cross spacialist" includes a syringe in his outfit.

The mention of the syringe is sufficient to call attention to the "cinema spacialist." He has a "cinema" injection (cinnamon enema) that is "just the thing" for use at the front in "prevention of typhus." He recommends including the cinema in the kit sent to the soldiers. "This wonderful impalpable powder should be stirred into a pint of water" and used daily.

The "hair restorer spacialists" are out in full force in the big dailies, averring that "as is well known, the disastrous effects of war news on the roots of the hair is well understood" (!) One maintains that "to obtain the best effects, apply synonymous with the receipt of German defeats."

The "cyder" manufacturers call attention to the beverage value of their goods, and urge that it be included in "the box for the boys," "as it is a true tonic."

With humanitarian instincts, a wide-awake concern announces that "those who are disposed to neurasthenia and nerve-tire, can find relief in furnishing the Italian reservists with the Scriptures when they leave to answer the call to their colors. This furnishes a delightful diversion, for it goes without saying that the Italian soldier, dying in war without religious consolation, dies like a dog."

Speaking of the Italians affords opportunity to refer to the "spacial" ad of "Traitors Salad" in the German papers, with the parenthetical "Formerly Italian Salad."

The filter men are up-to-date "medispacialists." They advertise the "soldiers' filter" by which "good water is obtained from the muddiest of streams. Good water means good health. Every mamma should send a filter to her son at the front. Remember that Lord Wolseley advises that the soldiers should filter their water."

Quoting King David's question to the wise woman of Tekoa, "Is not the hand of Joab with thee in this?"—a London journalist was asked if there is not among the "spacialists" American talent? He at once answered waspily: "Not by any means! The medispacialist is 'English!'"

W. H. MORSE, M.D.

Hartford, Conn.

The Woman Physician.

To the Editor of THE MEDICAL TIMES:

In the July issue of your valuable journal a letter from Dr. S. A. Knopf, the well known consultant on tuberculosis, appears in which he valiantly defends our women colleagues against certain alleged statements or views of Dr. Cabot, which he regards as unfounded, to the effect that "women physicians are not temperamentally and physically adapted for the more strenuous branches of the profession and therefore are disappointed and dissatisfied" and "furthermore that they should avoid taking up general practice and research work and should interest themselves in social service." The gallant doctor being requested to controvert this unjustifiable attack on women physicians in the lay and medical press proceeded to comply in his usual trenchant style. I certainly agree with him that an educated woman is as competent to practice medicine as an educated man, and I believe that she is specially adapted for laboratory work. Social welfare work, too, is perhaps the better adapted for women as surgery is for men, but this is matter for individual judgment.

In the interest of historical justice I take issue only with Dr. Knopf when he writes that "women physicians have become illustrious in many branches of medicine." To the present time at least this statement is not confirmed by history. Indeed, there are few *men* who are entitled to the term *illustrious* in the sense that I would characterize it, viz.: those who have done great epoch-making work. There are many distinguished and famous or great physicians in history, but only a few have initiated great epoch-making achievements like Hippocrates, Andrew Vesalius, Ambrose Paré, William Harvey, Jenner, Morton, Lister and Koch. I am positive that none of the unprejudiced friends of the distinguished women physicians mentioned by the doctor would be willing to so characterize them. Women have really been active in medicine only during the past four decades, which I am informed brought the medical diploma to about 7,000 women. And during this period only three men have become illustrious, according to my definition of the word, viz.: Koch, Lister and perhaps Carrel.

The expression of the above view in the TIMES of July 4th was intended to show that the fact that no women practitioners have become illustrious in the sense I distinctly stated is not explicable by the foolish theory of a mental inferiority of women doctors, compared with male doctors. I ventured the theory that the reason lies in differences of the anatomical, physiological and psychological make-up of the sexes comprised in the term biological, since there is no "great epoch-making achievement," discovery or invention recorded in history as accomplished by a woman with the partial instance of Madame Curie, who candidly confesses participation with her husband in the discovery of radium, and only one is recorded in her own feminine sphere (Florence Nightingale). This statement brought from the feminists, lay and medical, distortions of my words and attitude, which led to acrimonious discussion. I would not mention this fact were it not for an article that promises to be beneficent by Rose Young on "Chances Denied Women Doctors," she made astonishing revelations with regard to "rigid exclusion of women from the rich possibilities of clinical experiences and reputation afforded by positions on hospitals staffs" that demand immediate attention from hospital boards and women's auxiliary societies. I have inaugurated a publicity movement (The *Sun*, August 11) for the abolition of such discrimination if it exists in hospitals in which women are patients, and I urge your excellent journal to further it with your powerful editorial pen.

SIMON BARUCH, M. D.,

Long Branch, N. J., Aug. 12, 1915.

Comby reported 638 cases in 1675 necropsies upon children 15 years old or less from the combined hospital statistics in Paris. Between the 10th and the 15th year of the series, 71.23 per cent. were tuberculous.

Society Proceedings

AMERICAN PROCTOLOGIC SOCIETY.

At the seventeenth annual meeting of this organization, held at San Francisco June 21 and 22, the following officers were elected for the ensuing year: President, T. Chittenden Hill, Boston; vice-president, Frank C. Yeomans, New York; secretary-treasurer, Alfred J. Zobel, San Francisco. Executive Council—T. Chittenden Hill, Boston; Louis J. Krouse, Cincinnati; Geo. B. Evans, Dayton, and Alfred J. Zobel, San Francisco. The place of meeting for 1916 will be Detroit, Mich.

The following were elected Associate Fellows of the Society: P. Milton Linthicum, 817 Park Avenue, Baltimore; Wm. H. Stauffer, Humboldt Bldg., St. Louis; Wells Teachnor, 187 East State Street, Columbus.

The president's address, "Retrospect and Prospect," was delivered by the retiring executive, Louis J. Krouse, of Cincinnati, and Samuel T. Earle, of Baltimore, presented the report of proctologic literature from March, 1914, to March, 1915. W. M. Beach, of Pittsburgh, read a paper on "Rectal Prolapse and Its Mechanics." Discussing the "Cause of Dissatisfaction With Hemorrhoidal Operations," Rollin H. Barnes, of St. Louis, said the reason for dissatisfaction with the textbook methods in the operative treatment of hemorrhoids is that they are based upon the fear of hemorrhage, and that pace has not been kept with modern surgical knowledge in regard to the control of this hemorrhage. It is easier to take care of primary hemorrhage than of secondary bleeding such as may occur from a slough following the ligature or the clamp and cautery operation, because the surgeon is not always at hand when the latter occurs.

In the methods of J. Rawson Pennington (A. P. A. Trans., 1914), and the author (A. P. A. Trans., 1912), a clean excision of the hemorrhoid is done, so that it requires only controlling the primary hemorrhage, for there is no slough. The tissues are injured as little as possible so that they will retain the greatest amount of resistance against infection. There is less pain in these open methods, for we do not have the "confined infection" which is especially caused by the use of sutures and by injuries to the deeper tissues.

For the control of hemorrhage the author advocated the use of pressure. Also care should be taken of the bleeding vessel itself rather than a ligature should be tied around a mass of bleeding tissues, or that they should be cauterized. He also advocates that advantage be taken of that muscular contraction which can be secured to the greatest extent by minimizing trauma. The rectal plug acts against this muscular contraction.

The author opposes the customary purgation in the preparation of the patient before operation. He prefers the cold enema as a means to clean out the lower bowel. He contends that the daily enema in the after-treatment does not result in constipating the patient, but rather aids in securing regularity of bowel action.

Geo. B. Evans, of Dayton, spoke on "Emetin Hydrochloride in the Treatment of Amebic Dysentery." He believes that treatment by irrigation is a thing of the past. It has been supplanted by emetine hydrochloride hypodermically. "The Present Status of Local Anesthesia in the Surgery of the Lower Bowel" was discussed by Louis J. Hirschman, of Detroit. He employs local anesthesia in the surgical treatment of the majority of his cases of anal and rectal diseases, as well as in a small proportion of cases involving surgery of the colon. The results in both classes of surgical operations have been so satisfactory to both the patient and the surgeon that the author advocated with great earnestness the further employment of local anesthesia not only in the field of intestinal surgery but also in every branch of surgical activity where absolute unconsciousness of the patient is not a strict necessity.

"The Best Anesthesia to be Used in Anal and Rectal Surgery" was the subject of W. H. Kiger, of Los Angeles. After a personal experience in over five hundred rectal operations under novocain or tropococain without a single unpleasant result, he is of the opinion that spinal anesthesia is of great value. He called attention to the ease of administration of spinal anesthesia; that it may be given without the assistance of an expert anesthetist; that it saves time by doing away with the delay incident to an operation under a general anesthetic, that by its use the dangers of chloroform and ether are eliminated, as are also their after effects; that when it is employed there is no need to dilate the sphincters, as all the operator has to do is to ask the patient to strain and the gut will easily protrude through the relaxed sphincters; and, finally, that it avoids shock.

"Further Observation on the Treatment of Pruritus Ani by Autogenous Vaccines" was given by Dwight H. Murray, of Syracuse. In making the fifth report of his original research work Dr. Murray gave the results of the examinations concerning the etiology of twenty-one additional cases together with their treatment, complications, and present condition. He also reported on the cases previously examined, treated and reported. He believes that he is still justified in emphasizing the claim that most cases of pruritus ani and vulvæ are due to a local infection which may be benefitted by treatment with autogenous vaccines. Where he was unable to find streptococcus infection at the first bacteriologic examinations, this year when the patient had a slight relapse streptococcus fecalis was found. This gives additional evidence that infection may be present and yet the bacteriologic report not show it. Even when we have the knowledge that it is a skin infection; that the phagocytic power of the blood is below normal for the infecting bacteria; and that the vaccine injections give the best and most lasting relief; yet we are still unable to give patient a definite statement as to the number of treatments or length of time necessary before improvement will begin. Nor are we able to assure them that no relapse will occur.

Six cases confirm the claim made in the fifth conclusion of his third report, namely: "The presence of skin infection with a local lesion begets an unfavorable prognosis for the cure of pruritus ani by an operative procedure."

Three cases confirm the claim made in the sixth conclusion of his paper in 1913, namely: "The absence of a demonstrable skin infection with pruritus ani together with the presence of a local lesion will justify a favorable prognosis for the cure of the pruritus ani by an operative procedure."

Acute cases do not seem to obtain the benefit from the vaccine treatment that chronic local infections receive. Dr. Murray noticed that three of his very severe cases received little benefit during their course of treatment. He advised suspension of treatment and within a short time a marked improvement occurred in the severity of the pruritus and later the patients reported that the itching had practically ceased. He states that he can account for this only upon the hypothesis that they were in a continuous negative phase while the vaccine was being administered, and that after discontinuing it they came into a positive phase. This might be taken as evidence that vaccine may be continued too long or the doses given too frequently.

The author says that in all the patients that he has examined and treated during the past year it is remarkable that the cases of fistulæ, hemorrhoids, ulcer, cancer, diseased crypts, hypertrophied papillæ, constipation, and stricture gave no history whatever of having a pruritus ani. Yet authors still give these as causes. This confirms his statement in the second conclusion of the second report, namely: "Even when there is a discharge of pus or other moisture on the perianal skin it is not the actual cause of pruritus ani unless there is a streptococcic or other infection of the skin. They may exist together, but if so it is a coincidence."

"Constipation With Special Reference to Its Treatment" was discussed by Lewis H. Adler, Jr., of Philadelphia. Attention was called to the contra-distinction between obstipation and constipation. In constipation we have to deal with functional diseases of some portion of the intestinal tract; while in obstipation there is normal functional activity, but there is some deformity, growth, constriction, flexion or foreign body in the intestinal canal which offers a mechanical obstruction to the passage of the fecal current. He stated that these distinctions must be borne in mind, for while they may present similar symptoms, the treatment is entirely different.

"The Ultimate Nervous Results of Acute Angulation of the Sigmoid and the Consequent Fecal Stasis" was presented by W. H. Axtell, of Bellingham, Wash. He divides the nervous end results into three general types:

(a) Severe type, including acute mania.

(b) Moderately severe type, including melancholia, chronic sciatica, chronic lumbago, trophic corneal ulcers.

(c) Mild type, including eczema, the apathetic, the neurasthenic.

He was not prepared to say whether or not the angulations found were the cause of the fecal stasis, or the stasis the cause of the acute angulation. These conditions, however, were found in all of those cases, and the nervous conditions which were produced disappeared upon correction of the angulation and stasis.

Dr. Axtell's conclusions are:

(1) Many cases treated as typhoid fever are simply cases of constitutional and systemic infection from putrefactive toxins of the alimentary canal.

(2) If the true condition were recognized at the outset, and if the colon were thoroughly cleansed of the soil for the growth of typhoid bacteria, there would be fewer cases of typhoid fever.

(3) Physicians do not as a whole examine the rectum and colon with the same degree of precision that they do other parts; they do not have a true appreciation of its importance;

nor do they comprehend what persistence is required to empty the colon.

(4) We are all too much inclined to cling to precedent, rather than to act according to the conditions found.

J. Rawson Pennington, of Chicago, spoke on "Rectal Fistula." The rectum extends from the terminance of the sigmoid, at a point opposite the middle of the third sacral vertebra, to the pectinate line. The anal canal extends from this line to the anus. A fistula, then, with the external opening in the anal canal should be classified as an anal-fistula, or fistula-in-ano. A fistula with the internal opening in the pectinate line, or junction between the rectum and the anal canal, partakes of both of these structures, the rectum and anal canal, and should be known as an ano-rectal fistula. While those cases with the internal opening in the rectum should be known as rectal fistula. Complex, compound, horse-shoe, and other so-called varieties of fistula are simply expressions of complexity, position or shape, of one or the other of the foregoing divisions, or a combination of them.

Methods of Treatment.—Many methods have been proposed for the treatment of fistula. The author desires to submit herewith another which he believes to be far more important than any as yet presented—the preventive treatment. All methods may be classified under three general heads, viz, the preventive, palliative and curative. Under the former may be considered the prophylactic and the abortive treatment. Under the latter the injection and the operative treatment.

(a) **Prophylactic Treatment.**—It is said that an ounce of prevention is worth a pound of cure. This injunction is as apropos in the treatment of fistula as in the treatment of any other malady. A complete history and careful examination usually elicits the fact that practically every individual who has fistula has or has had hemorrhoids, cryptitis, fissure, pruritus ani, proctitis, or some other form of curable rectal disease. These conditions favor the invasion of the peri-rectal tissues with pyogenic organisms, which is usually followed by an abscess and fistula. Hence, if people were educated to keep their rectums in a healthy state, and did so, fistula would become less frequent. Since the number of cases may be reduced by education, it becomes our duty as proctologists to launch a campaign for the prevention of this loathsome affliction—fistula.

(b) **Abortive Treatment.**—The time to abort fistula is during the infection or abscess stage. If the abscess is opened early and the pus allowed to escape, and the abscess wall is not interfered with in any way with instruments or drugs, but the cavity drained freely, and gently filled with subnitrate of bismuth ointment, and this treatment repeated every two, three or four days according to the indications, fistula will, as a rule, be aborted.

A. J. Zobel, of San Francisco, reported a case of fecal abscess in the pouch of Douglas, following typhoid. He stated that for the past thirty years very few cases of fecal abscess have been reported in the literature. Only one of the more recently published textbooks of surgery gives even brief mention of the subject. A fecal abscess is distinctly different from an abscess in which the pus has been so tainted by a growth of colon bacillus that from the odor it may be mistaken for fecal matter. It may occur in connection with any portion of the intestine, and originate either externally or from within. When it originates without it may subsequently burst into the gut, empty its purulent content, and have it replaced wholly or in part with fecal matter.

A fecal abscess which originates from within the gut usually results from a slow progressive ulceration of the mucosa, due either to general conditions, such as typhoid fever, dysentery, tuberculosis or cancer, or to local causes, such as chronic intestinal catarrh, stricture, a hard fecal accumulation, or a foreign body.

Zobel reported a case of fecal abscess which not only filled the cul-de-sac of Douglas, but also had invaded the tissues between the rectum and the vagina. The patient, a woman of forty-two had had a miscarriage eight years previously, and was told at that time that some kind of a swelling could be felt in her rectum. However, this gave her no trouble then, nor subsequently, and it had been entirely forgotten. When her present trouble began, two and a half months after an attack of typhoid fever, the history of this former condition complicated the diagnosis. On digital examination a large, smooth, immovable, brawny mass, beginning about 2½ c.m. above the internal sphincter, and extending beyond reach of the finger, was felt bulging from the right-lateral and anterior sides of the rectum. The mucosa was freely movable over it. No sign of fluctuation could be elicited. No particular pain was caused by deep pressure. The temperature and pulse rate were normal. It has been aspirated through the rectum by her physician, and a slightly turbid fluid had been withdrawn. The mass began to swell into the vagina, and in two days so occluded the passage that it almost prevented the entrance of the examining finger beyond the portal. Slight fluctuation was then felt. There was severe rectal pain. The temperature was still normal; the pulse 90. An exact diagnosis was not made before the operation. An incision was made through the postero-lateral vaginal wall. Upon blunt dissection a tense sac presented. When this was punctured the contents gushed out in a thick sluggish stream which kept flowing for some little time. From its strong fecal odor and brownish-yellow, lumpy appearance it apparently consisted wholly of semi-liquid, mushy feces, similar to what is found in the lower end of the ileum and cecum. Nearly two pints of this foul material was evacuated. Fecal drainage ceased entirely eight hours after the abscess was opened. The turbid discharge which remained rapidly decreased in quantity and in less than four weeks after the fecal abscess was evacuated the wound was completely healed.

Zobel said that although a fecal abscess is met with so rarely the possibility of it being present should be taken into consideration in the differential diagnosis of obscure intra-abdominal tumors. He concluded by quoting from Fenwick: "Where there is a localized abdominal swelling, immovable by the respiration or by a moderate amount of pressure of the fingers; whose size and shape alters when diarrhœa occurs; in which light percussion gives a tympanitic, and a more forcible stroke a dull sound; or in which an emphysematous sensation is communicated to the fingers, or a gurgling sound produced by percussion, it will be probably of fecal origin; and this more probably when there is a history of anything apt to produce ulceration."

Diagnosis and Treatment

The Blood and the Blood Vessels in Hemophilia.

Alfred T. Hess, of New York, read a paper on this subject at Johns Hopkins. He says it is impossible at the present time to classify the hemorrhagic diseases. However, two main groups may be distinguished: hemophilia and purpura. By hemophilia is meant the type of disease which is characterized by its hereditary nature and by the fact that it is transmitted almost always to the male, the female showing no manifestations of the disease. Clinically, its main criterion is the great delay in the coagulation of the blood. The purpuras, on the other hand, show an almost normal coagulation time of the blood, and occur in females as frequently as in males. This group is characterized by a diminished number of the blood platelets, which are normal in hemophilia; by an increase in the bleeding time; by the occurrence of hemorrhage at the site of subcutaneous puncture; by the appearance of many small petechial spots, and by the freedom of the joints from hemorrhagic involvement. In addition to these signs, we have described what may be termed *the capillary resistance test*, which is chiefly present in the purpuric conditions and has been found to be absent in hemophilia. By this is meant the phenomenon of the appearance of petechial spots on the fore arm following the application of a tourniquet for a definite period to the upper arm, in other words, after subjection of the vessel walls to this increase of pressure.

However, these two groups of hemophilia and purpura overlap to a certain extent. We have met with an instance where true hemophilia existed in the male, and purpura, manifesting the various symptoms just enumerated, was present in the female. Furthermore, purpura not infrequently occurs as a family disease, so that a hereditary history does not indicate the existence of hemophilia. There are other borderline cases.

Melena neonatorum is one of the most important groups under purpura. From a pathogenetic point of view, this must not be considered an entity. It includes the toxic, hemophilic and purpuric type.

The defect leading to hemophilia is not definitely known. It has been generally determined that there is no deficiency of calcium. In one case followed for a considerable period, a definite deficiency of calcium was

established. This was determined by means of the calcium estimations of the blood, by the hastening of coagulation following the addition of minimal amounts of calcium to the blood (a procedure which delays or does not hasten the coagulation of normal blood), and by metabolism studies which show that in this case there was a negative balance of calcium, whereas in a typical case of hemophilia, the calcium balance was positive. This case, a boy of about 4 years, was judged to have hemophilia, as the coagulation of his blood was delayed and the platelet count was always normal.

The blood vessels vary in their resistance greatly among normal children. They were found to be somewhat weak among children having tuberculosis. In a study of numerous cases of infantile scurvy, we were led to conclude that the blood was but slightly influenced by this disorder, but that the hemorrhages, so characteristic of this disease, were due to involvement of the blood vessels.

From a clinical standpoint it would seem that too much stress is at present being laid upon the coagulation time of the blood and even from blood obtained not directly from the blood vessels. Operations are undertaken if the clotting time is reported as normal. This leads to serious or fatal consequences. It is far more important from this point of view to ascertain the number of platelets, the bleeding time, and the appearance or absence of hemorrhage following subcutaneous puncture.—(*Johns Hopkins Hosp. Bull.*, July, 1915).

A Substitute for Iodoform.

Mouchet and Malbec found iodoform of value in the treatment of infected, especially of gangrenous wounds. The fetor disappeared, and the foul scab covering the surface gave place to healthy granulations. The extremely disagreeable smell of iodoform is an objection to its use, and an efficient substitute was discovered in quiniodol, which smells good, is just as powerfully antiseptic and equally keratoplastic. The iodine is in as good a state of dilution as in the liquid form. Quiniodol is cheaper than iodoform.

The method of preparation is as follows:

1. *Quiniodol* 5 per cent.
   - *a.* Dissolve 5 gr. of iodine in 100 c.c. of ether.
   - *b.* Add 100 gr. of powdered red cinchona.
   - *c.* Triturate the mass until the ether has evaporated completely.
   - *d.* Pass the powder so obtained through a fine sieve.
2. *Quiniodol* 10 per cent.
   10 gr. of iodine are dissolved in 200 c.c. of ether and triturated with 100 gr. of powdered cinchona.

The 10 per cent. strength is used for gangrenous wounds, the 5 per cent. for sluggish and slightly infected wounds.—(*Paris médical.*)

Hallucinations After Cocain.

V. E. Henderson, of Canada, quotes numerous cases of erotic hallucinations following the use of cocaine as a local anæsthetic, and warns dental practitioners against its use, unless a third person be present. A case is quoted in which cocaine pressure anæsthesia was used to deal with an exposed tooth-pulp. Later the patient, a girl of 16, made charges of indecent assault against the dentist.—(*Dominion Dent. Jour.*)

Deformities of the spine in children may always be diminished by appropriate padding, while the patient lies upon a convex frame.

The Physician's Library

Modern Medicine. Its Theory and Practice. Edited by Sir William Osler, Bart., M.D., F.R.S., Regius Professor of Medicine in Oxford University, England, and Thomas McCrae, M. D., Professor of Medicine in the Jefferson Medical College, Philadelphia. In five octavo vols. of about 1,000 pages each. Volume V. Diseases of the Nervous System; Diseases of the Locomotor System. Price per vol., cloth, $5 net half morocco, $7 net. Philadelphia and New York: Lea & Febiger, 1915.

Notable both because of the intrinsic value of its contents and in that its publication marks the completion of this monumental work on practice is Volume V of Modern Medicine. As a completed work it presents the ripe experience and practical knowledge of the leaders of the English-speaking race in every department of medical practice in original articles selected and correlated with masterly ability. This volume treats the diseases of the nervous and Locomotor systems. In the assignment of space and the selection of the authorities best qualified to present the various subjects from the most advanced viewpoint, the distinguished editors again demonstrate their exceptional qualifications for their task. Among the contributors are: Lewellys F. Barker, Johns Hopkins; Chas. W. Burr, University of Pennsylvania; L. Pierce Clark, New York; Joseph Collins, New York; Harvey Cushing, Harvard; Charles P. Emerson, Indiana University; Smith Ely Jelliffe, New York; Colin K. Russell, McGill University; Bernard Sachs, New York; C. C. Southard, Harvard; William G. Spiller, University of Pennsylvania; Edward W. Taylor, Harvard; Henry M. Thomas, Johns Hopkins.

Among the most noticeable contributions in this galaxy are: Spiller on Diseases of the Motor Tracts, Sachs on Syphilitic Diseases of the Central Nervous System, Jelliffe on Hysteria, and Collins on Aphasia.

Pyorrhea Alveolaris. By Friedrich Hecker, D. D. S., M. D., of Kansas City. Cloth, 158 pages, $2 net. St. Louis: C. V. Mosby Co., 1915.

A great deal on a great subject is condensed in this monograph. Believing that pyorrhea is a constitutional disturbance and should receive the attention of the physician, the author sets forth his belief as to best means of treatment. Unfortunately, however, the work was written before emetin hydrochloride was recognized as a valued means of treatment and it is not therefore discussed.

Child Training as an Exact Science. By George W. Jacoby, M. D. With full bibliography and thorough index. 384 pages, 15 full-page illustrations. $1.50 net; by mail, $1.62. New York: Funk & Wagnalls Company, 1915.

This book appeals to the physician, teacher and parent, as it shows how the active co-operation of the three can be used to the advantage of the child. From the standpoint of each the volume appeals in the telling force and we confidently believe that if its precepts were followed our children would be better mentally, physically and morally.

Neurographs. A Series of Neurological Studies, Cases, and Notes. Edited by William Browning, M. D., of Long Island College Hospital. Vol. I, No. 4. Paper, 122 pages. Quarterly at $2 a year. 1313 Bedford Avenue, Brooklyn, N. Y.: Albert T. Huntington, 1915.

(*Continued on page* 20.)

Good Mineral Oil

must be pure oil entirely freed from all by-products—
must have the right viscosity—
must easily pass all the official tests—
should be tasteless—
should be "made in America for Americans"—
should be prepared, advertised and sold exclusively
for physicians' use—not for lay self-medication.
These are six of the "reasons why" the MEDICAL TIMES
accepts this true description of OUR Mineral Oil.
Efficiency, palatability and uniformity are others
that will also appeal to you. Your druggist can supply.

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Purveyors to the medical profession since 1860

"Colorless Mineral Oil S & D"

A
Rational Procedure
in
Summer Diarrhea

For Infants of any age

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
16 fluidounces

Give one to three ounces every hour or two, according to the age of the baby, continuing until stools lessen in number and improve in character.

Milk, preferably skimmed, may then be substituted for water—one ounce each day—until regular proportions of milk and water, adapted to the age of the baby, are reached.

(*Continued from page* 310.)

This issue is devoted to an article of unusual value on stammering by Dr. Browning. It is one of the most complete monographs on this subject we have seen and is worthy a place in every medical library.

The Medical Clinics of Chicago. Volume I. Number 1. (July, 1915. Octavo of 208 pages, 37 illustrations. Paper, $8. Cloth, $12. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly.

A new venture is here given to the profession and if the initial number is any criterion, it will be a valuable one. Clinics of well known Chicago interests will be presented in the style of the Murphy Clinics. This issue contains talks by Drs. Charles L. Mix, Charles S. Williamson, Isaac A. Abt, Robert B. Preble, Maurice L. Goodkind, Frederick Tice, Walter Hamburger and Ralph C. Hamill.

We commend these clinical talks to men who want to keep fully abreast of the times.

The Ductless Glandular Diseases. By Wilhelm Falta, Vienna. Illustrated by Milton K. Meyers, M. D., of Philadelphia. Cloth. 673 pages. $7 net. Philadelphia: P. Blakiston's Son & Co., 1915.

In view of the great interest now being displayed in the ductless glands this work will be welcomed. It deals entirely with the clinical aspects of diseases of the glands. First is discussed the diseases of the thyroid gland and then in order diseases of the para thyroid glands, the thymus, the epiphysis, suprarenal apparatus, status lymphaticus and hypoplasticus and sexual glands, pluriglandular diseases, disturbances not directly due to diseases of the ductless glands, diseases of the insular apparatus of the pancreas, and the different forms of obesity.

The various diseases are treated exhaustively and enlighteningly and many obscure facts are thus brought into the light. A splendid bibliography is a feature. The book, excellently printed and well illustrated, is a most valuable addition to the literature of this important subject and its presentation will be welcomed with acclaim by the many medical men who will find in its pages a vast storehouse of useful knowledge.

Medical Chemistry. By Henry Leffmann, M. D., of the Woman's Medical College of Pennsylvania. Cloth, 241 pages. $1.00 net. Philadelphia: P. Blakiston's Sons & Co., 1915.

This is a helpful compendium, one of a well known series, and gives exactly what the student needs, a bird's-eye view of the subject. It is also of value to the physician in brushing up on a subject which one can readily forget.

Exercise in Education and Medicine. By R. Tait McKenzie, A. B., M. D., Professor of Physical Education, and Director of the Department, University of Pennsylvania. Cloth, 585 pages, with 478 illustrations. Cloth, $4 net; half morocco, $5.50 net. Philadelphia and London: W. B. Saunders Company, 1915.

It is difficult to estimate the value of such a book as this. If its teachings were carried out America would possess the best physical specimens on earth and physicians would have much less to do, while such charlatans as Christian scientists would disappear from the face of the earth.

McKenzie shows normal men how to exercise properly. He shows abnormal men how to become normal by means of exercise. In short he gives us the proper physical therapy for every manner of man. Too many physicians minimize the importance of physical education. Those men should read this volume and though scoffers they would remain to pray.

The proper development of the body and its continuance in the best possible condition spells long life. All men need rational exercise and McKenzie teaches us how to do it. Let us follow him and use less drugs and more exercise.

Blood Vessel Surgery. By J. Shelton Horsley, M. D., Surgeon in charge of St. Elizabeth's Hospital, Richmond, Va. Cloth, 304 pages. $4.00. St. Louis: C. V. Mosby Company, 1915.

The object of this book is well told in the preface: "To present the scientific and laboratory features of vascular surgery and its practical aspects which are of interest to surgeon and general practitioner." Therefore it describes the history and technique of suturing blood vessels and the transfusion of blood, as well as the treatment of pathologic and traumatic hemorrhage, aneurisms, thrombosis, embolism, congenital nevi, varicose veins and hemorrhoids. The matter is well presented and the book is excellently illustrated.

The Principles of Bacteriology. By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania. Cloth. 650 pages, with 113 illustrations, 28 in colors. $2.75 net. Philadelphia and New York: Lea & Febiger, 1915.

This book has run through nine editions and this fact tells the story of its value. Although a new edition it is almost a new book, as the author has taken this opportunity to bring it entirely up to date. The volume might be called a popular treatise on the subject, as it carefully refrains from delving into abstruse problems, giving only what it purports, the principles of bacteriology.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume IV, Number III (June, 1915). Octavo of 195 pages, 73 illustrations. Published Bi-monthly. Price per year, paper, $8; cloth, $12. Philadelphia and London: W. B. Saunders Company.

This issue contains among others interesting talks on surgical and general diagnosis, appendicitis, tumor of the testicle, painful exostosis of the os calcis and hypernepleroma of the right kidney.

The clinics are as valuable as usual.

A Manual of the Practice of Medicine. By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania, Lecturer on Medicine in the University of Pennsylvania. Tenth edition, revised. Cloth, 629 pages, illustrated. Flexible leather, $2.50 net. Philadelphia and London: W. B. Saunders Company, 1915.

Ten editions in 23 years is the record of this most excellent of manuals. It was our ally in student days and we have conned each new edition with added interest.

The book is a vade mecum of the practice of medicine and it seems strange that any practitioner can perform his professional duties without it at his elbow.

Everything in internal medicine is presented in condensed form and the ensemble especially commends the work to the discriminating student.

Infective bacteria can pass through the placenta and infect the fetus.